

Todd, Amber

From: Rita Chavez <chavezr@adamsbroadwell.com>
Sent: Friday, July 01, 2016 12:34 PM
To: Vollmann, Peterson; City Clerk
Cc: Laura E. Horton
Subject: 226 13th Street Project (PLN15320)
Attachments: 3506-005rc - 226 13th St Appeal Letter to City Council.pdf; Attachments A-C.pdf; City of Oakland Appeal Form (with check).pdf

On behalf of Oakland Residents for Responsible Development, attached please find our Appeal to the Oakland City Council for the above-referenced project. Hard copies of the appeal will be sent by overnight delivery to both parties for delivery on the morning of July 5, 2016. The appeal fee of \$1,891.09 will be sent directly to Peterson Vollmann. Please contact **Laura Horton** directly if you have any questions.

Thank you.

Regards,

Rita

Rita I. Chavez

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July 1, 2016

VIA EMAIL AND OVERNIGHT MAIL

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Planning and Zoning Division
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Re: 226 13th Street Project (PLN15320) Appeal to Oakland City Council

Dear Mr. Vollmann and City Clerk:

We write on behalf of Oakland Residents for Responsible Development to appeal the Oakland Planning Commission's June 22, 2016 decision to approve the following entitlements for the 226 13th Street Project ("Project"):

1. Adoption/approval of the CEQA Findings.
2. Approval of the Regular Design Review for new construction, Major Conditional Use Permits for a large project in the D-LM Zone, Minor Conditional use Permit to allow a base height of up to 85 feet, Minor Variance to allow two loading berths where three are required, and Vesting Tentative Parcel Map for new condominiums., subject to the

3506-005rc

attached findings and conditions of approval, including the Standard Conditions of Approval/Mitigation Monitoring and Reporting Program.

The Project includes a five-story building over a two-story podium with approximately 262 multi-family units, parking for approximately 198 vehicles, and approximately 12,090 square feet of retail space on 14th Street.

This appeal letter demonstrates that the Commission's decision was not supported by substantial evidence in the record. Specifically, we identified several flaws in the City's analysis, as well as new information regarding new or more severe impacts than previously analyzed in the LMSAP EIR, which were not adequately considered by the Commission. Furthermore, we identified several mitigation measures not previously analyzed that would reduce significant impacts. The City's CEQA Analysis fails to analyze and mitigate the Project's construction health risks to the surrounding community, which are new or more severe than previously analyzed. Therefore, the City lacks substantial evidence to support the conclusions in its CEQA Analysis and an EIR is required.

This appeal letter and attachments raises each and every issue that is contested, and includes all arguments and evidence in the record previously presented to the Planning Commission as required by Section 17.134.070 of the Oakland Planning Code. We previously filed comments on the Project on May 31, 2016 with the assistance of experts Matt Hagemann and Jessie Jaeger from SWAPE, which we incorporate herein by reference.¹ Furthermore, we reviewed the June 1, 2016 letter from the City's consultant, ICF International² with the assistance of SWAPE. SWAPE's attached technical comments are submitted as support for this appeal letter, and SWAPE's May 31 letter is incorporated herein by reference.³

¹ See Letter and Attachments from Laura Horton to the Oakland Planning Commission and Peterson Vollman re: Comments on the CEQA Analysis for the 226 13th Street Project (PLN15320), May 31, 2016, **Attachment A**.

² See Letter from ICF International to Peterson Z. Vollmann re: 226 13th Street Project - Response to Comment Letter from Adams Broadwell Joseph & Cardozo, June 1, 2016, (hereinafter, "Consultant Letter"), **Attachment B**.

³ See Letter from Matt Hagemann and Jessie Jaeger, SWAPE, to Laura Horton re: Comments on the 14th & Alice Project (hereinafter, "SWAPE Comments"), May 31, 2016 [found in Attachment A]; See also Letter from Matt Hagemann and Jessie Jaeger, SWAPE, to Laura Horton re: Response to Comments on the 226 13th Street Project (PLN 15-320) (hereinafter, "SWAPE Comments II"), **Attachment C**.

I. STATEMENT OF INTEREST

Oakland Residents for Responsible Development (“Oakland Residents”) is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential impacts associated with Project development. The association includes Alan Guan, Risi Agbabiaka, Peter Lew, Bridgette Hall, Tanya Pitts, the International Brotherhood of Electrical Workers Local 595, Plumbers and Steamfitters Local 342, Sheet Metal Workers Local 104, Sprinkler Fitters Local 483, and their members and their families who live and/or work in the City of Oakland and Alameda County.

The individual members of Oakland Residents live, work, and raise their families in the City of Oakland. They would be directly affected by the Project’s impacts. Individual members may also work on the Project itself. They will therefore be first in line to be exposed to any health and safety hazards that may exist on the Project site.

The organizational members of Oakland Residents also have an interest in enforcing the City’s planning and zoning laws and the State’s environmental laws that encourage sustainable development and ensure a safe working environment for its members. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for business and industry to expand in the region, and by making it less desirable for businesses to locate and people to live there. Indeed, continued degradation can, and has, caused restrictions on growth that reduce future employment opportunities. Finally, Oakland Residents’ members are concerned about projects that present environmental and land use impacts without providing countervailing economic and community benefits.

II. THE CITY MAY NOT RELY ON PREVIOUS ENVIRONMENTAL ANALYSIS FOR PROJECT APPROVAL

CEQA has two basic purposes, neither of which is satisfied by the CEQA Analysis. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental impacts of a project before harm is done to the environment.⁴ The EIR is the “heart” of this requirement.⁵ The EIR has been

⁴ 14 Cal. Code Regs. § 15002(a)(1) (“CEQA Guidelines”); *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm’rs.* (2001) 91 Cal.App.4th 1344, 1354 (“*Berkeley Jets*”); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

described as “an environmental ‘alarm bell’ whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.”⁶

To fulfill this function, the discussion of impacts in an EIR must be detailed, complete, and “reflect a good faith effort at full disclosure.”⁷ An adequate EIR must contain facts and analysis, not just an agency’s conclusions.⁸ CEQA requires an EIR to disclose all direct and indirect potentially significant environmental impacts of a project.⁹

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring imposition of mitigation measures and by requiring the consideration of environmentally superior alternatives.¹⁰ If an EIR identifies potentially significant impacts, it must then propose and evaluate mitigation measures to minimize these impacts.¹¹ CEQA imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.¹² Without an adequate analysis and description of feasible mitigation measures, it would be impossible for agencies relying upon the EIR to meet this obligation.

Under CEQA, an EIR must not only discuss measures to avoid or minimize adverse impacts, but must ensure that mitigation conditions are fully enforceable through permit conditions, agreements or other legally binding instruments.¹³ A CEQA lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or

⁵ *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 84.

⁶ *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

⁷ CEQA Guidelines § 15151; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 721-722.

⁸ *See Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 568.

⁹ Pub. Resources Code § 21100(b)(1); CEQA Guidelines § 15126.2(a).

¹⁰ CEQA Guidelines § 15002(a)(2) and (3); *Berkeley Jets*, 91 Cal.App.4th at 1354; *Laurel Heights Improvement Ass’n v. Regents of the University of Cal.* (1998) 47 Cal.3d 376, 400.

¹¹ Pub. Resources Code §§ 21002.1(a), 21100(b)(3).

¹² *Id.*, §§ 21002-21002.1.

¹³ CEQA Guidelines § 15126.4(a)(2).

feasibility.¹⁴ This approach helps “insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug.”¹⁵

Following preliminary review of a project to determine whether an activity is subject to CEQA, a lead agency is required to prepare an initial study to determine whether to prepare an EIR or negative declaration, identify whether a program EIR, tiering, or other appropriate process can be used for analysis of the project’s environmental effects, or determine whether a previously prepared EIR could be used with the project, among other purposes.¹⁶ CEQA requires an agency to analyze the potential environmental impacts of its proposed actions in an EIR except in certain limited circumstances.¹⁷ A negative declaration may be prepared instead of an EIR when, after preparing an initial study, a lead agency determines that a project “would not have a significant effect on the environment.”¹⁸

When an EIR has been prepared for a project, CEQA requires the lead agency to conduct subsequent or supplemental environmental review when one or more of the following events occur:

- (a) Substantial changes are proposed in the project which will require major revisions of the environmental impact report;
- (b) Substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report; or
- (c) New information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available.¹⁹

¹⁴ *Kings County Farm Bur. v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).

¹⁵ *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.

¹⁶ CEQA Guidelines §§ 15060, 15063(c).

¹⁷ *See, e.g.*, Pub. Resources Code § 21100.

¹⁸ *Quail Botanical Gardens v. City of Encinitas* (1994) 29 Cal.App.4th 1597; Pub. Resources Code § 21080(c).

¹⁹ Pub. Resources Code § 21166.

The CEQA Guidelines explain that the lead agency must determine, on the basis of substantial evidence in light of the whole record, if one or more of the following events occur:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant effects or a substantial increase in the severity of previously identified effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the

environment, but the project proponents decline to adopt the mitigation measure or alternative.²⁰

Only where **none** of the conditions described above calling for preparation of a subsequent or supplemental EIR have occurred may the lead agency consider preparing a subsequent negative declaration, an Addendum or no further documentation.²¹ For Addendums specifically, which is one of several CEQA exemption/streamlining avenues that the City claims is applicable to the Project, CEQA allows Addendums to a previously certified EIR “if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.”²²

Here, the City has failed to demonstrate that the Project can be lawfully approved based on the CEQA Analysis provided. Indeed, as explained in this letter, the City must disclose, analyze, and mitigate the Project’s significant impacts in an EIR. Otherwise, the City’s approval of the Project would violate CEQA.

A. The Project is Not Consistent with CEQA Addendum and Exemption Requirements

The City claims the Project is consistent with CEQA Guidelines Sections 15162 (Subsequent EIR and Negative Declaration), 15164 (Addendums), and 15168 (Program EIRs).²³ However, the City’s reliance on these provisions is misplaced for two reasons.

First, the CEQA Analysis does not simply provide “some changes or additions” to the EIR as is allowed under the Addendum provision; rather, it includes over 2,000 pages of analysis for a large development project which is different from the project analyzed in the LMSAP EIR.²⁴ Indeed, the City’s unlawful use of the Addendum provision has occurred frequently in other projects in Oakland.²⁵ The City must discontinue this practice, which clearly violates CEQA. Second, as explained further below, the Project will result in new or more severe

²⁰ CEQA Guidelines § 15162(a)(1)-(3).

²¹ CEQA Guidelines § 15162(b).

²² CEQA Guidelines § 15164.

²³ CEQA Analysis, Attachment B, p. B-1.

²⁴ *Id.*, at p. 2.

²⁵ See 2400 Valdez Street Project, (PLN15-336),

<http://www2.oaklandnet.com/oakcal/groups/ceda/documents/report/oak057878.pdf>.

significant impacts than analyzed in previous EIRs, and there are new mitigation measures that were not considered in the previous EIRs, but that could reduce those impacts to a less than significant level. In any case, the City's decision must be supported by substantial evidence.²⁶ Here, the City's decision not to prepare a subsequent or supplemental EIR for the Project is not supported by substantial evidence.

The City also relies on additional CEQA provisions that allow approval of projects without an EIR in narrow circumstances. Specifically, the City relies on CEQA Guidelines Sections 15183 (Community Plan)²⁷ and 15183.3 (Qualified Infill)²⁸ for Project approval. However, the City's determination that exemptions also apply is not supported by substantial evidence.

The exemptions apply only when a Project does not have impacts peculiar to the proposed project that are new or more significant than previously analyzed or can be substantially mitigated by uniformly applicable development policies or standards. The Project fails to meet these requirements because the Project's health risks from diesel particulate matter ("DPM") emissions during construction are highly significant. In particular, because the LMSAP did not actually quantify project-level health risks, the absence of any previous project-specific analysis undermines the City's determination that Standard Conditions of Approval ("SCAs") would mitigate the impact. Unfortunately, the LMSAP EIR did not fully address these peculiar and more significant impacts, and there are mitigation measures not previously identified that would reduce these significant impacts.

Thus, the Project will have new or more severe significant impacts than previously analyzed in the LMSAP EIR. In addition, as described below, the site-specific analysis conducted for the Project is flawed in several ways and the CEQA Analysis fails to incorporate all feasible mitigation. Therefore, the City may not rely on the CEQA Analysis for Project approval, and must provide detailed analysis of the Project's impacts in an EIR.

²⁶ *Id.* §§ 15162 (a), 15164(e), and 15168(c)(4).

²⁷ CEQA Guidelines Section 15183.

²⁸ CEQA Guidelines Section 15183.3.

B. The CEQA Analysis Fails To Adequately Analyze and Mitigate Project-Specific Health Risk From Diesel Particulate Matter

1. The City is Required to Quantify the Project's Health Risk from DPM Emissions During Construction

The California Air Resources Board (“CARB”) identifies DPM as a toxic air contaminant (“TAC”) based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects.²⁹ In 2012, the International Agency for Research on Cancer listed diesel engine exhaust as “carcinogenic to humans.”³⁰ As with other air pollutants, SWAPE explains that DPM emissions during development construction can impact both on-site construction workers and the surrounding community such as schools and residential sensitive receptors.³¹

The LMSAP EIR concludes that “[d]evelopment facilitated by the proposed Plan would potentially expose sensitive receptors to substantial health risks from [TACs] from sources including both DPM and gaseous emissions.”³² Furthermore, the LMSAP EIR found that while compliance with the City’s SCAs “would entail the preparation of site-specific health risk assessments which would reduce DPM exposure to a less than significant level”, the SCAs would not necessarily reduce gaseous TACs to a less-than-significant level.³³ Therefore, the LMSAP EIR found the impacts related to DPM exposure would be less than significant, while the remaining TAC impacts (related to gaseous sources) would be significant and unavoidable.³⁴

The LMSAP EIR did not address construction related exposures because “[t]he specificity of detail necessary to conduct a health risk assessment is not available at the Plan stage...”³⁵ The LMSAP EIR thus deferred the assessment of health risks from construction activities to the project level stage where project-

²⁹ <http://www.arb.ca.gov/research/diesel/diesel-health.htm>.

³⁰ *Id.*

³¹ SWAPE Comments, p. 14.

³² LMSAP DEIR, p. ES-34.

³³ *Id.*

³⁴ *Id.*, at 3.3-25.

³⁵ *Id.*, at 3.3-39.

specific impacts and mitigation measures could be determined to ensure that DPM exposure would not exceed applicable thresholds.

As we previously explained in our May 31 comments, the CEQA Analysis completely fails to evaluate the health risk posed to nearby sensitive receptors from exposure to DPM emissions released during Project construction, despite the indication in the LMSAP EIR that a health risk assessment (“HRA”) would be required.³⁶ The City’s omission of an HRA is particularly egregious because there are several schools in the area, including the American Indian Public Charter School, which is a charter middle school with predominantly low-income, minority students within two blocks of the Project. Oakland Charter High School is also just a few blocks away from the Project site.

The CEQA Analysis justifies the omission by stating “[d]ue to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary. . . Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities.”³⁷

In addition, the CEQA Analysis states that although “[t]he LMSAP EIR determined that sensitive receptors in proximity to construction-related DPM emissions (generally within 200 meters) could be subject to increased cancer risk, chronic health problems, and acute health risk,” all future development projects pursuant to the LMSAP would be subject to basic construction control measures and best management practices through implementation of SCA 19/ SCA-AIR-1.³⁸ SWAPE’s analysis demonstrates that these justifications are misplaced.

Although the CEQA Analysis incorporates SCAs from the LMSAP, the City is not absolved of CEQA’s requirement that agencies disclose significant environmental impacts to the public and mitigate those impacts.³⁹ The CEQA Analysis openly states that the LMSAP EIR determined that sensitive receptors may be subject to an increased cancer risk due to construction activities. Therefore, CEQA mandates that the City quantify that risk in order to determine *if* the basic

³⁶ SWAPE Comments, p. 14.

³⁷ CEQA Analysis, p. 39.

³⁸ *Id.*

³⁹ CEQA Guidelines §§ 15126.2, 15126.4.

construction control measures and best management practices in SCA 19/ SCA-AIR-1 will reduce DPM emissions to less than significant levels.

Furthermore, the CEQA Analysis assumes that because construction would occur over a short period of time, the health risk posed from construction activities would be negligible. SWAPE explains that this determination conflicts with most recent guidance published by the Office of Environmental Health Hazard Assessment (“OEHHA”), the organization responsible for providing recommendations for health risk assessments in California. OEHHA’s *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was formally adopted by OEHHA in March of 2015, describes the types of projects that warrant the preparation of a health risk assessment.⁴⁰ OEHHA guidance recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.⁴¹ Here, Project construction is expected to last 24 months. In addition, Project construction will produce emissions of DPM, as described in the CEQA Analysis. SWAPE explains that OEHHA’s recommendation that such short-term projects be evaluated for cancer risks to nearby sensitive receptors “reflects the most recent health risk assessment policy, and as such, an assessment of health risks to nearby sensitive receptors from construction should be included in a revised CEQA evaluation for the Project.”⁴²

2. *The Project Will Result in Significant Health Risks from DPM Emissions During Construction*

In light of the City’s failure to quantify the Project’s impacts from DPM emissions during construction, SWAPE prepared a simple screening-level health risk assessment using AERSCREEN. SWAPE’s analysis demonstrates that construction-related DPM emissions will result in a previously undisclosed significant impact to the surrounding community.⁴³

SWAPE’s California Emissions Estimator Model Version CalEEMod.2013.2.2 (“CalEEMod”) annual emissions indicate that construction activities will generate

⁴⁰ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

⁴¹ *Id.*, at 8-18.

⁴² SWAPE Comments, p. 15.

⁴³ *Id.*

approximately 897.2 pounds of DPM over a 728 day construction period.⁴⁴ Construction activity was simulated as a 1.4 acre rectangular area source in AERSCREEN, with dimensions of 95 meters by 60 meters. SWAPE explains that a release height of three meters was selected to represent the height of exhaust stacks on construction equipment, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. Furthermore, an urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.⁴⁵

SWAPE calculated the excess cancer risk for each sensitive receptor location, for adults, children, and/or infant receptors using applicable HRA methodologies prescribed by OEHHA.⁴⁶ OEHHA recommends the use of Age Sensitivity Factors (“ASFs”) to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution.⁴⁷ According to the revised guidance, quantified cancer risk should be multiplied by a factor of ten during the first two years of life (infant), and by a factor of three for the subsequent fourteen years of life (child aged two until sixteen). Furthermore, in accordance with guidance set forth by the BAAQMD, SWAPE used 95th percentile breathing rates for infants and children and 80th percentile breathing rates for adults.⁴⁸ Furthermore, SWAPE used a cancer potency factor of 1.1 (mg/kg-day)⁻¹ and an averaging time of 25,550 days. The results of SWAPE’s calculations are shown below.

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ *Id.*, at 16.

⁴⁷ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, *available at*: http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

⁴⁸ “Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines,” BAAQMD, January 2010, *available at*: http://www.baaqmd.gov/~media/Files/Engineering/Air%20Toxics%20Programs/hrsa_guidelines.ashx, p. 2-3.

Parameter	Description	Units	Adult	Child	Infant
C _{air}	Concentration	µg/m ³	0.9825	0.9825	0.9825
DBR	Daily breathing rate	L/kg-day	233	572	1090
EF	Exposure Frequency	days/year	365	365	365
ED	Exposure Duration	years	14	14	2
AT	Averaging Time	days	25550	25550	25550
	Inhaled Dose	(mg/kg-day)	4.6E-05	1.1E-04	3.1E-05
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1	1.1
ASF	Age Sensitivity Factor	-	1	3	10
Cancer Risk			5.04E-05	3.71E-04	3.37E-04

SWAPE concludes that “[t]he excess cancer risk to adults, children, and infants during Project construction for the sensitive receptors located 100 meters away are 50.4, 371, and 337 in one million, respectively.”⁴⁹ The adult, child, and infantile exposure for the sensitive receptors clearly exceed the BAAQMD threshold of 10 in one million.⁵⁰ Thus, the Project will result in significant health risks from DPM emissions during construction. As a result, SWAPE concludes that the City must prepare a refined HRA using site-specific meteorology and specific equipment usage schedules and include the HRA in an EIR to examine air quality and public health impacts generated by Project construction.⁵¹

⁴⁹ SWAPE Comments, p. 16.

⁵⁰ BAAQMD CEQA Air Quality Guidelines, p. 2-5,
http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_May%202011_5_3_11.ashx.

⁵¹ SWAPE Comments, p. 16.

3. *The City Fails to Incorporate all Feasible Mitigation Measures Required to Reduce Significant Impacts from DPM Emissions*

SWAPE's screening-level HRA demonstrates that construction of the Project would result in significant health risks.⁵² Thus, SWAPE provides a detailed list of mitigation measures that could be incorporated to reduce DPM exposure. Although the CEQA Analysis incorporates SCA AIR-1 (SCA 19) from the LMSAP FEIR, the Project would require even further measures to reduce the significant impacts from DPM emissions to less than significant levels. SWAPE notes that additional mitigation measures can be found in the California Air Pollution Control Officers Association's ("CAPCOA") *Quantifying Greenhouse Gas Mitigation Measures*, which reduces GHG emissions, as well as reduce Criteria Air Pollutants such as particulate matter (PM).⁵³ Mitigation measures for particulate matter emissions, which are described in further detail in SWAPE's May 31 comments, include:⁵⁴

- Limiting construction equipment beyond regulation requirements;
- Requiring implementation of diesel control measures as described by the Northeast Diesel Collaborative ("NEDC");
- Repowering or replacing older construction engines;
- Installing retrofit devices on existing construction equipment;
- Using electric or hybrid construction equipment;
- Instituting a Heavy-Duty Off-Road Vehicle Plan;
- Implementing a Construction Vehicle Inventory Tracking System; and
- "Enhanced Exhaust Control Practices," recommended by the Sacramento Metropolitan Air Quality Management District ("SMAQMD").⁵⁵

The CEQA Analysis is inconsistent with the LMSAP because it fails to quantify the health risk associated with DPM emissions for this Project, as anticipated under the LMSAP EIR. Furthermore, the City failed to identify and incorporate feasible mitigation measures, not previously identified, that would reduce the Project's highly significant health risk impacts during construction. In light of the fact that the LMSAP EIR identified the health risk from DPM during construction as a less than significant impact, this Project does, in fact, present substantial new information showing a new or more severe significant impact than

⁵² *Id.*, at 17.

⁵³ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>.

⁵⁴ SWAPE Comments, p. 17 – 21.

⁵⁵ http://www.airquality.org/ceqa/Ch3EnhancedExhaustControl_10-2013.pdf.

previously analyzed. Furthermore, there are mitigation measures not previously identified that could potentially reduce the impact to less than significant levels. Therefore, CEQA requires the City to prepare an EIR for the Project, and the City may not rely on the CEQA Analysis for Project approval.

4. *ICF International's June 1, 2016 Letter Fails to Resolve These Issues*

On June 1, 2016, the City's Consultant ICF International prepared a letter responding to our May 31 comments. The consultant letter attempts to address our concerns on this matter, stating that the LMSAP EIR determined that the health risks from the plan buildout would be less than significant, and that "there is no evidence that the project would have . . . impacts that are new or more significant than previously analyzed in the LMSAP EIR."⁵⁶ This is an inaccurate statement, given that in the absence of any Project-specific analysis whatsoever, SWAPE conducted its own analysis and found that the Project would far exceed health risk thresholds. SWAPE's analysis constitutes substantial evidence, whereas the City has completely failed to provide any quantification of the Project's health risks.

The consultant letter further states that "there is nothing in the LMSAP EIR indicating that a stand-alone health risk assessment for construction-related impacts is required on a project-by-project basis."⁵⁷ However, this legal argument from the consultant overlooks the fact that CEQA itself requires disclosure of the scope and severity of a project's environmental impacts where such information is necessary to allow decisionmakers and the public to understand the environmental consequences of the project.⁵⁸ The City's failure to conduct a project-specific health risk assessment both at the program and project level violates CEQA's disclosure mandate.

SWAPE explains in its July 1 letter that the City's justification for failing to quantify the health risk is inadequate. Specifically, without quantification of this risk, SWAPE states that "it is unclear how much the risk will be minimized, and is unclear if this risk will be reduced to a less-than-significant level once these

⁵⁶ Consultant Letter, p. 4.

⁵⁷ *Id.*

⁵⁸ See *at Berkeley Keep Jets Over the Bay Committee v. Bd. of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1382; see also *Cadiz Land Co. v. Rail Cycle* (2000) 83 Cal.App.4th 74, 93-94.

mitigation measures are implemented.”⁵⁹ In addition, SWAPE finds that the City failed to adequately analyze the feasibility of the mitigation measures provided in SCA AIR-1 and measures provided in SWAPE’s May 31 letter.⁶⁰

In fact, SWAPE finds the consultant’s statement that “The project sponsor would ensure that construction equipment would meet Tier 4 emissions standards” to be “questionable” as the feasibility of using all Tier 4 equipment is “unclear.”⁶¹ SWAPE concludes that the City has failed to demonstrate the feasibility of implementing this measure once the Project is approved.

SWAPE explains that Tier 4 emission standards were introduced in 2004, and were phased in from 2008 – 2015 but that the tiered emission standards “are only applicable to newly manufactured nonroad equipment.”⁶² According to the United States Environmental Protection Agency (“EPA”) “if products were built before EPA emission standards started to apply, they are generally not affected by the standards or other regulatory requirements.”⁶³ Therefore, pieces of equipment manufactured prior to 2000 are not required to adhere to Tier 2 emission standards, and pieces of equipment manufactured prior to 2008 are not required to adhere to Tier 4 emission standards.⁶⁴ SWAPE further explains that “[c]onstruction equipment often lasts more than 30 years; as a result, Tier 1 equipment and non-certified equipment are currently still in use.”⁶⁵ SWAPE estimates that of the two million diesel engines currently used in construction, 31 percent were manufactured before the introduction of emissions regulations.⁶⁶

Furthermore, SWAPE notes that a California Industry Air Quality Coalition report estimated that approximately 7% and less than 1% of all off-road heavy duty diesel equipment in California was equipped with Tier 2 and Tier 3 engines,

⁵⁹ SWAPE Comments II, p. 2.

⁶⁰ *Id.*, at 2 – 3.

⁶¹ *Id.*, at 3.

⁶² *Id.*

⁶³ “Frequently Asked Questions from Owners and Operators of Nonroad Engines, Vehicles, and Equipment Certified to EPA Standards.” United States Environmental Protection Agency, August 2012. Available at: <http://www.epa.gov/oms/highway-diesel/regs/420f12053.pdf>.

⁶⁴ SWAPE Comments II, p. 3.

⁶⁵ *Id.*

⁶⁶ *Id.*

respectively.⁶⁷ The report further stated that “cleaner burning Tier 4 engines...are not expected to come online in significant numbers until 2014.”⁶⁸ Given that significant production activities have only just begun within the last couple of years, SWAPE states that there is a limited availability of Tier 4 equipment.⁶⁹ In addition, due to the complexity of Tier 4 engines, SWAPE notes that “it is very difficult if not nearly impossible, to retrofit older model machinery with this technology.”⁷⁰ Therefore, available off-road machinery equipped with Tier 4 engines are mostly new.

Thus, even just based on availability, SWAPE finds that the City has failed to demonstrate that all of the construction equipment utilized for the Project will have Tier 4 engines. SWAPE further states that according to the California Air Resources Board (“CARB”), engine tiers for large and medium construction fleets (fleets with over 2,500 horse power) must be Tier 2 or higher. Therefore, CARB does not require that off-road construction fleets be comprised solely of Tier 4 Final engines. Rather, construction equipment fleets typically include a mix of Tier 2, 3, and 4 engines, instead of just Tier 4 Final equipment exclusively.⁷¹

Moreover, SCA AIR-1 does not specifically require all Tier 4 equipment during construction. Another mitigation measure, SCA AIR-2, specifically calls for Tier 4 engines to reduce *operational* health risk impacts, but even then the measure merely requires Tier 4 “if feasible.”⁷² Without a condition specifically requiring all Tier 4 engines during construction and a detailed analysis regarding the feasibility of such a measure, SWAPE concludes that the City “failed to adequately demonstrate that all of the Project’s construction equipment would meet Tier 4 standards.”⁷³ As a result, the City cannot rely on SCA AIR-1 to conclude that the Project’s construction health risk would be reduced to below levels of significance.

⁶⁷ “White Paper: An Industry Perspective on the California Air Resources Board Proposed Off-Road Diesel Regulations.” Construction Industry Air Quality Coalition, *available at*: http://www.agc-ca.org/uploadedFiles/Member_Services/Regulatory-Advocacy-Page-PDFs/White_Paper_CARB_OffRoad.pdf.

⁶⁸ *Id.*

⁶⁹ SWAPE Comments II, p. 4.

⁷⁰ *Id.*

⁷¹ *Id.*

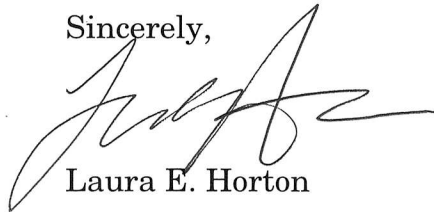
⁷² CEQA Analysis, p. A-6.

⁷³ SWAPE Comments II, p. 4.

III. CONCLUSION

The City's environmental analysis for the Project fails to satisfy the requirements of CEQA. As explained in this appeal and in our previous comments, the City has failed to adequately analyze and mitigate the Project's significant health risks posed to the surrounding community, which are new or more severe than previously analyzed, therefore disqualifying the Project from any CEQA exemptions. For these reasons, we urge the City Council to reverse the Commission's Project approval and CEQA findings and order the preparation of an EIR for the Project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Laura E. Horton', is written over the typed name.

Laura E. Horton

LEH:ric
Attachments

ATTACHMENT A

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May 31, 2016

VIA EMAIL and
HAND DELIVERY on June 1, 2016

Chair Jim Moore and
Planning Commission
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Re: Comments on the CEQA Analysis for the 226 13th Street Project
(PLN15320)

Dear Chair Moore, Honorable Members of the Oakland Planning Commission and Mr. Vollman:

We write on behalf of Oakland Residents for Responsible Development to comment on the City of Oakland's analysis of the 226 13th Street Project ("Project") pursuant to the California Environmental Quality Act ("CEQA Analysis").¹ The Project includes a five-story building over a two-story podium with approximately 262 multi-family units, parking for approximately 198 vehicles, and approximately 12,090 square feet of retail space on 14th Street.

The CEQA Analysis evaluates the Project's potential environmental impacts and consistency with the Lake Merritt Station Area Plan, as well as Oakland's 1998

¹ Pub. Resources Code §§ 21000 et seq.

General Plan Land Use and Transportation Element Environmental Impact Report (“EIR”), the 2010 General Plan Housing Element Update EIR and 2014 Addendum, and the 2011 Central District Urban Renewal Plan Amendments EIR.

We reviewed the CEQA Analysis and applicable plans, and we identified several flaws in the analysis, as well as new information regarding new or more severe impacts than previously analyzed in the LMSAP EIR. Furthermore, we identified several mitigation measures not previously analyzed that would reduce significant impacts. Specifically, the CEQA Analysis fails to analyze and mitigate the Project’s construction health risks to the surrounding community, which are new or more severe than previously analyzed, and fails to adequately analyze and mitigate the Project’s significant VOC emissions during construction. Therefore, the City lacks substantial evidence to support the conclusions in its CEQA Analysis and an EIR is required.

We reviewed the CEQA Analysis, LMSAP EIR, and other plans and EIRs with the help of experts Matt Hagemann and Jessie Jaeger. Their attached technical comments are submitted in addition to the comments in this letter.² Accordingly, they must be addressed and responded to separately. The curricula vitae of these experts are also attached as exhibits to this letter.

I. STATEMENT OF INTEREST

Oakland Residents for Responsible Development (“Oakland Residents”) is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential impacts associated with Project development. The association includes Alan Guan, Risi Agbabiaka, Peter Lew, Bridgette Hall, Tanya Pitts, the International Brotherhood of Electrical Workers Local 595, Plumbers and Steamfitters Local 342, Sheet Metal Workers Local 104, Sprinkler Fitters Local 483, and their members and their families who live and/or work in the City of Oakland and Alameda County.

The individual members of Oakland Residents live, work, and raise their families in the City of Oakland. They would be directly affected by the Project’s impacts. Individual members may also work on the Project itself. They will

² See Letter from Matt Hagemann and Jessie Jaeger, SWAPE, to Laura Horton re: Comments on the 14th & Alice Project (hereinafter, “SWAPE Comments”), May 31, 2016, **Attachment A**.

therefore be first in line to be exposed to any health and safety hazards that may exist on the Project site.

The organizational members of Oakland Residents also have an interest in enforcing the City's planning and zoning laws and the State's environmental laws that encourage sustainable development and ensure a safe working environment for its members. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for business and industry to expand in the region, and by making it less desirable for businesses to locate and people to live there. Indeed, continued degradation can, and has, caused restrictions on growth that reduce future employment opportunities. Finally, Oakland Residents' members are concerned about projects that present environmental and land use impacts without providing countervailing economic and community benefits.

II. THE CITY MAY NOT RELY ON PREVIOUS ENVIRONMENTAL ANALYSIS FOR PROJECT APPROVAL

CEQA has two basic purposes, neither of which is satisfied by the CEQA Analysis. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental impacts of a project before harm is done to the environment.³ The EIR is the "heart" of this requirement.⁴ The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."⁵

To fulfill this function, the discussion of impacts in an EIR must be detailed, complete, and "reflect a good faith effort at full disclosure."⁶ An adequate EIR must contain facts and analysis, not just an agency's conclusions.⁷ CEQA requires an EIR to disclose all potential direct and indirect, significant environmental impacts of a project.⁸

³ 14 Cal. Code Regs. § 15002(a)(1) ("CEQA Guidelines"); *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal.App.4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

⁴ *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 84.

⁵ *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

⁶ CEQA Guidelines § 15151; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 721-722.

⁷ *See Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 568.

⁸ Pub. Resources Code § 21100(b)(1); CEQA Guidelines § 15126.2(a).

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring imposition of mitigation measures and by requiring the consideration of environmentally superior alternatives.⁹ If an EIR identifies potentially significant impacts, it must then propose and evaluate mitigation measures to minimize these impacts.¹⁰ CEQA imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.¹¹ Without an adequate analysis and description of feasible mitigation measures, it would be impossible for agencies relying upon the EIR to meet this obligation.

Under CEQA, an EIR must not only discuss measures to avoid or minimize adverse impacts, but must ensure that mitigation conditions are fully enforceable through permit conditions, agreements or other legally binding instruments.¹² A CEQA lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility.¹³ This approach helps “insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug.”¹⁴

Following preliminary review of a project to determine whether an activity is subject to CEQA, a lead agency is required to prepare an initial study to determine whether to prepare an EIR or negative declaration, identify whether a program EIR, tiering, or other appropriate process can be used for analysis of the project’s environmental effects, or determine whether a previously prepared EIR could be used with the project, among other purposes.¹⁵ CEQA requires an agency to analyze the potential environmental impacts of its proposed actions in an EIR except in certain limited circumstances.¹⁶ A negative declaration may be prepared

⁹ CEQA Guidelines § 15002(a)(2) and (3); *Berkeley Jets*, 91 Cal.App.4th at 1354; *Laurel Heights Improvement Ass’n v. Regents of the University of Cal.* (1998) 47 Cal.3d 376, 400.

¹⁰ Pub. Resources Code §§ 21002.1(a), 21100(b)(3).

¹¹ *Id.*, §§ 21002-21002.1.

¹² CEQA Guidelines § 15126.4(a)(2).

¹³ *Kings County Farm Bur. v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).

¹⁴ *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.

¹⁵ CEQA Guidelines §§ 15060, 15063(c).

¹⁶ *See, e.g.*, Pub. Resources Code § 21100.

instead of an EIR when, after preparing an initial study, a lead agency determines that a project “would not have a significant effect on the environment.”¹⁷

When an EIR has been prepared for a project, CEQA requires the lead agency to conduct subsequent or supplemental environmental review when one or more of the following events occur:

- (a) Substantial changes are proposed in the project which will require major revisions of the environmental impact report;
- (b) Substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report; or
- (c) New information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available.¹⁸

The CEQA Guidelines explain that the lead agency must determine, on the basis of substantial evidence in light of the whole record, if one or more of the following events occur:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant effects or a substantial increase in the severity of previously identified effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at

¹⁷ *Quail Botanical Gardens v. City of Encinitas* (1994) 29 Cal.App.4th 1597; Pub. Resources Code § 21080(c).

¹⁸ Pub. Resources Code § 21166.

the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

- (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
- (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
- (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
- (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.¹⁹

Only where **none** of the conditions described above calling for preparation of a subsequent or supplemental EIR have occurred may the lead agency consider preparing a subsequent negative declaration, an Addendum or no further documentation.²⁰ For Addendums specifically, which is one of several CEQA exemption/streamlining avenues that the City claims is applicable to the Project, CEQA allows Addendums to a previously certified EIR “if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.”²¹

Here, the City has failed to demonstrate that the Project can be lawfully approved based on the CEQA Analysis provided. Indeed, as explained in this letter, the City must disclose, analyze, and mitigate the Project’s significant impacts in an EIR. Otherwise, the City’s approval of the Project would violate CEQA.

¹⁹ CEQA Guidelines § 15162(a)(1)-(3).

²⁰ CEQA Guidelines § 15162(b).

²¹ CEQA Guidelines § 15164.

A. The Project is Not Consistent with CEQA Addendum and Exemption Requirements

The City claims the Project is consistent with CEQA Guidelines Sections 15162 (Subsequent EIR and Negative Declaration), 15164 (Addendums), and 15168 (Program EIRs).²² However, the City's reliance on these provisions is misplaced for two reasons.

First, the CEQA Analysis does not simply provide "some changes or additions" to the EIR as is allowed under the Addendum provision; rather, it includes over 2,000 pages of analysis for a large development project which is different from the project analyzed in the LMSAP EIR.²³ Indeed, the City's unlawful use of the Addendum provision has occurred frequently in other projects in Oakland.²⁴ The City must discontinue this practice, which clearly violates CEQA. Second, as explained further below, the Project will result in new or more severe significant impacts than analyzed in previous EIRs, and there are new mitigation measures that were not considered in the previous EIRs, but that could reduce those impacts to a less than significant level. In any case, the City's decision must be supported by substantial evidence.²⁵ Here, the City's decision not to prepare a subsequent or supplemental EIR for the Project is not supported by substantial evidence.

The City also relies on additional CEQA provisions that allow approval of projects without an EIR in narrow circumstances. Specifically, the City relies on CEQA Guidelines Sections 15183 (Community Plan)²⁶ and 15183.3 (Qualified Infill)²⁷ for Project approval. However, the City's determination that exemptions also apply is not supported by substantial evidence.

The exemptions apply only when a Project does not have impacts peculiar to the proposed project that are new or more significant than previously analyzed or can be substantially mitigated by uniformly applicable development policies or standards. The Project fails to meet these requirements because the Project's

²² CEQA Analysis, Attachment B, p. B-1.

²³ *Id.*, at p. 2.

²⁴ See 2400 Valdez Street Project, (PLN15-336), <http://www2.oaklandnet.com/oakcal/groups/ceda/documents/report/oak057878.pdf>.

²⁵ *Id.* §§ 15162 (a), 15164(e), and 15168(c)(4).

²⁶ CEQA Guidelines Section 15183.

²⁷ CEQA Guidelines Section 15183.3.

health risks from diesel particulate matter (“DPM”) emissions during construction are highly significant. In particular, because the LMSAP did not actually quantify project-level health risks, the absence of any previous project-specific analysis undermines the City’s determination that Standard Conditions of Approval (“SCAs”) would mitigate the impact. Furthermore, the Project’s VOC emissions during construction exceed the City’s thresholds of significance. Unfortunately, the LMSAP EIR did not fully address these peculiar and more significant impacts, and there are mitigation measures not previously identified that would reduce these significant impacts.

Thus, the Project will have new or more severe significant impacts than previously analyzed in the LMSAP EIR. In addition, as described below, the site-specific analysis conducted for the Project is flawed in several ways and the CEQA Analysis fails to incorporate all feasible mitigation. Therefore, the City may not rely on the CEQA Analysis for Project approval, and must provide detailed analysis of the Project’s impacts in an EIR.

B. The CEQA Analysis Fails To Adequately Analyze and Mitigate Project-Specific Health Risk From Diesel Particulate Matter

1. The City is Required to Quantify the Project’s Health Risk from DPM Emissions During Construction

The California Air Resources Board (“CARB”) identifies diesel particulate matter (“DPM”) as a toxic air contaminant (“TAC”) based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects.²⁸ In 2012, the International Agency for Research on Cancer listed diesel engine exhaust as “carcinogenic to humans.”²⁹ As with other air pollutants, SWAPE explains that DPM emissions during development construction can impact both on-site construction workers and the surrounding community such as schools and residential sensitive receptors.³⁰

The LMSAP EIR concludes that “[d]evelopment facilitated by the proposed Plan would potentially expose sensitive receptors to substantial health risks from

²⁸ <http://www.arb.ca.gov/research/diesel/diesel-health.htm>.

²⁹ *Id.*

³⁰ SWAPE Comments, p. 14.

[TACs] from sources including both DPM and gaseous emissions.”³¹ Furthermore, the LMSAP EIR found that while compliance with the City’s SCAs “would entail the preparation of site-specific health risk assessments which would reduce DPM exposure to a less than significant level”, the SCAs would not necessarily reduce gaseous TACs to a less-than-significant level.³² Therefore, the LMSAP EIR found the impacts related to DPM exposure would be less than significant, while the remaining TAC impacts (related to gaseous sources) would be significant and unavoidable.³³

The LMSAP EIR did not address construction related exposures because “[t]he specificity of detail necessary to conduct a health risk assessment is not available at the Plan stage...”³⁴ The LMSAP EIR thus deferred the assessment of health risks from construction activities to the project level stage where project-specific impacts and mitigation measures could be determined to ensure that DPM exposure would not exceed applicable thresholds.

As explained by SWAPE, however, the CEQA Analysis completely fails to evaluate the health risk posed to nearby sensitive receptors from exposure to DPM emissions released during Project construction, despite the indication in the LMSAP EIR that a health risk assessment (“HRA”) would be required.³⁵ The City’s omission of an HRA is particularly egregious because there are several schools in the area, including the American Indian Public Charter School, which is a charter middle school with predominantly low-income, minority students within two blocks of the Project. Oakland Charter High School is also just a few blocks away from the Project site.

The CEQA Analysis justifies the omission by stating “[d]ue to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary. . . Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities.”³⁶

³¹ LMSAP DEIR, p. ES-34.

³² *Id.*

³³ *Id.*, at 3.3-25.

³⁴ *Id.*, at 3.3-39.

³⁵ SWAPE Comments, p. 14.

³⁶ CEQA Analysis, p. 39.

In addition, the CEQA Analysis states that although “[t]he LMSAP EIR determined that sensitive receptors in proximity to construction-related DPM emissions (generally within 200 meters) could be subject to increased cancer risk, chronic health problems, and acute health risk,” all future development projects pursuant to the LMSAP would be subject to basic construction control measures and best management practices through implementation of SCA 19/ SCA-AIR-1.³⁷ SWAPE’s analysis demonstrates that these justifications are misplaced.

Although the CEQA Analysis incorporates SCAs from the LMSAP, the City is not absolved of CEQA’s requirement that agencies disclose significant environmental impacts to the public and mitigate those impacts.³⁸ The CEQA Analysis openly states that the LMSAP EIR determined that sensitive receptors may be subject to an increased cancer risk due to construction activities. Therefore, CEQA mandates that the City quantify that risk in order to determine *if* the basic construction control measures and best management practices in SCA 19/ SCA-AIR-1 will reduce DPM emissions to less than significant levels.

Furthermore, the CEQA Analysis assumes that because construction would occur over a short period of time, the health risk posed from construction activities would be negligible. SWAPE explains that this determination conflicts with most recent guidance published by the Office of Environmental Health Hazard Assessment (“OEHHA”), the organization responsible for providing recommendations for health risk assessments in California. OEHHA’s *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was formally adopted by OEHHA in March of 2015, describes the types of projects that warrant the preparation of a health risk assessment.³⁹ OEHHA guidance recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.⁴⁰ Here, Project construction is expected to last 24 months. In addition, Project construction will produce emissions of DPM, as described in the CEQA Analysis. SWAPE explains that OEHHA’s recommendation that such short-term projects be evaluated for cancer risks to nearby sensitive receptors “reflects the most recent health risk assessment policy, and as such, an assessment of health risks to nearby sensitive

³⁷ *Id.*

³⁸ CEQA Guidelines §§ 15126.2, 15126.4.

³⁹ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

⁴⁰ *Id.*, at 8-18.

receptors from construction should be included in a revised CEQA evaluation for the Project.”⁴¹

2. *The Project Will Result in Significant Health Risks from DPM Emissions During Construction*

In light of the City’s failure to quantify the Project’s impacts from DPM emissions during construction, SWAPE prepared a simple screening-level health risk assessment using AERSCREEN. SWAPE’s analysis demonstrates that construction-related DPM emissions will result in a previously undisclosed significant impact to the surrounding community.⁴²

SWAPE’s model incorporates updated construction emissions estimates, as explained in more detail below. The updated California Emissions Estimator Model Version CalEEMod.2013.2.2 (“CalEEMod”) annual emissions indicate that construction activities will generate approximately 897.2 pounds of DPM over a 728 day construction period.⁴³ Construction activity was simulated as a 1.4 acre rectangular area source in AERSCREEN, with dimensions of 95 meters by 60 meters. SWAPE explains that a release height of three meters was selected to represent the height of exhaust stacks on construction equipment, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. Furthermore, an urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.⁴⁴

SWAPE calculated the excess cancer risk for each sensitive receptor location, for adults, children, and/or infant receptors using applicable HRA methodologies prescribed by OEHHA.⁴⁵ OEHHA recommends the use of Age Sensitivity Factors (“ASFs”) to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution.⁴⁶ According to the revised guidance, quantified cancer risk should be multiplied by a factor of ten during the first two years of life (infant), and by a factor of three for the subsequent fourteen years of life (child aged two until sixteen). Furthermore, in accordance with guidance set forth by the

⁴¹ SWAPE Comments, p. 15.

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.*, at 16.

⁴⁶ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

BAAQMD, SWAPE used 95th percentile breathing rates for infants and children and 80th percentile breathing rates for adults.⁴⁷ Furthermore, SWAPE used a cancer potency factor of 1.1 (mg/kg-day)⁻¹ and an averaging time of 25,550 days. The results of SWAPE's calculations are shown below.

Parameter	Description	Units	Adult	Child	Infant
C _{air}	Concentration	µg/m ³	0.9825	0.9825	0.9825
DBR	Daily breathing rate	L/kg-day	233	572	1090
EF	Exposure Frequency	days/year	365	365	365
ED	Exposure Duration	years	14	14	2
AT	Averaging Time	days	25550	25550	25550
	Inhaled Dose	(mg/kg-day)	4.6E-05	1.1E-04	3.1E-05
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1	1.1
ASF	Age Sensitivity Factor	-	1	3	10
Cancer Risk			5.04E-05	3.71E-04	3.37E-04

SWAPE concludes that “[t]he excess cancer risk to adults, children, and infants during Project construction for the sensitive receptors located 100 meters away are 50.4, 371, and 337 in one million, respectively.”⁴⁸ The adult, child, and infantile exposure for the sensitive receptors clearly exceed the BAAQMD threshold of 10 in one million.⁴⁹ Thus, the Project will result in significant health risks from DPM emissions during construction. As a result, SWAPE concludes that the City must prepare a refined HRA using site-specific meteorology and specific equipment usage schedules and include the HRA in an EIR to examine air quality and public health impacts generated by Project construction.⁵⁰

⁴⁷ “Air Toxics NSR Program Health Risk Screening Analysis (HRSa) Guidelines,” BAAQMD, January 2010, available at: http://www.baaqmd.gov/~media/Files/Engineering/Air%20Toxics%20Programs/hrsa_guidelines.ashx, p. 2-3.

⁴⁸ SWAPE Comments, p. 16.

⁴⁹ BAAQMD CEQA Air Quality Guidelines, p. 2-5, http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_May%202011_5_3_11.ashx.

⁵⁰ SWAPE Comments, p. 16.

3. *The City Fails to Incorporate all Feasible Mitigation Measures Required to Reduce Significant Impacts from DPM Emissions*

SWAPE's screening-level HRA demonstrates that construction of the Project would result in significant health risks.⁵¹ Thus, SWAPE provides a detailed list of mitigation measures that could be incorporated to reduce DPM exposure. Although the CEQA Analysis incorporates SCA AIR-1 (SCA 19) from the LMSAP FEIR, the Project would require even further measures to reduce the significant impacts from DPM emissions to less than significant levels. SWAPE notes that additional mitigation measures can be found in the California Air Pollution Control Officers Association's ("CAPCOA") *Quantifying Greenhouse Gas Mitigation Measures*, which reduces GHG emissions, as well as reduce Criteria Air Pollutants such as particulate matter (PM).⁵² Mitigation measures for particulate matter emissions, which are described in further detail in SWAPE's comments, include:⁵³

- Limiting construction equipment beyond regulation requirements;
- Requiring implementation of diesel control measures as described by the Northeast Diesel Collaborative ("NEDC");
- Repowering or replacing older construction engines;
- Installing retrofit devices on existing construction equipment;
- Using electric or hybrid construction equipment;
- Instituting a Heavy-Duty Off-Road Vehicle Plan;
- Implementing a Construction Vehicle Inventory Tracking System; and
- "Enhanced Exhaust Control Practices," recommended by the Sacramento Metropolitan Air Quality Management District ("SMAQMD").⁵⁴

The CEQA Analysis is inconsistent with the LMSAP because it fails to quantify the health risk associated with DPM emissions for this Project, as anticipated under the LMSAP EIR. Furthermore, the City failed to identify and incorporate feasible mitigation measures, not previously identified, that would reduce the Project's highly significant health risk impacts during construction. In light of the fact that the LMSAP EIR identified the health risk from DPM during construction as a less than significant impact, this Project does, in fact, present substantial new information showing a new or more severe significant impact than

⁵¹ *Id.*, at 17.

⁵² <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>.

⁵³ SWAPE Comments, p. 17 – 21.

⁵⁴ http://www.airquality.org/ceqa/Ch3EnhancedExhaustControl_10-2013.pdf.

previously analyzed. Furthermore, there are mitigation measures not previously identified that could potentially reduce the impact to less than significant levels. Therefore, CEQA requires the City to prepare an EIR for the Project, and the City may not rely on the CEQA Analysis for Project approval.

B. The CEQA Analysis Fails To Adequately Analyze and Mitigate Project-Specific Construction Emissions

1. The CEQA Analysis Uses Unsubstantiated Input Parameters to Estimate Project Emissions

The CEQA Analysis for the Project relies on emissions calculated from CalEEMod.⁵⁵ As explained by SWAPE, CalEEMod provides recommended default values based on site specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but CEQA requires that such changes be justified by substantial evidence.⁵⁶ Once all the values are inputted into the model, the Project's construction and operational emissions are calculated and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the Project's air pollution emissions, and make known which default values were changed, as well as provide a justification for the values selected.⁵⁷

When reviewing the CalEEMod output files for the air quality analysis, SWAPE found that several of the values inputted into the model are "are not consistent with information disclosed in the CEQA Analysis."⁵⁸ For example, the City's CEQA Analysis specifically describes that the Project will involve grading, paving, architectural coating, drilling and hauling during demolition and excavation. As a result, the GHG emissions associated with the construction and operation of the Project are "greatly underestimated."⁵⁹ When SWAPE corrected

⁵⁵ CalEEMod website, *available at*: <http://www.caleemod.com/>.

⁵⁶ CalEEMod User Guide, pp. 2, 9.

⁵⁷ *Id.*

⁵⁸ SWAPE Comments, p. 2.

⁵⁹ *Id.*

those values, the model shows that the Project will have a significant VOC impact.⁶⁰ The model values are incorrect for eight reasons.

- The CalEEMod model output files are incomplete.
- The CalEEMod model relies upon an incorrect intensity factors.
- The EMFAC2014 emission factors are insufficiently supported.
- The CalEEMod model fails to include grading equipment for the grading phase.
- The CalEEMod model underestimates paving square footage and equipment.
- The CalEEMod model fails to include appropriate construction equipment for architectural coating.
- The CalEEMod model fails to include a drill rig in the equipment estimates.
- The CalEEMod model underestimates the number of hauling trucks for demolition and excavation.⁶¹

Because the City's modeling of air emissions fails to account for all aspects of the Project, as described by the City itself, the City's modeling and analysis of air quality impacts are not supported by substantial evidence.

2. Corrected Model Shows Significant VOC Impact and Higher Emissions Levels

In light of the City's failure to adequately analyze emissions, SWAPE prepared an updated air model using CalEEMod. SWAPE's analysis demonstrates that the Project will result in a significant VOC impact.⁶²

SWAPE explains that the updated model used a CO₂ intensity factor of 457 lbs/MWh, which is consistent with applicable guidance. In addition, the model relies upon the CalEEMod default values of 0.029 lb/MWhr and 0.006 lb/MWhr for the CH₄ Intensity factor and N₂O Intensity factor, respectively. SWAPE also updated the equipment list to include an additional grader during the grading phase, paving-specific equipment during the phases that require paving, an additional air compressor for the finishes and coating phases, and an additional

⁶⁰ *Id.*

⁶¹ *Id.*, at p. 2 – 12.

⁶² *Id.*, at 12.

drilling rig for the shoring phases.⁶³ SWAPE also increased the number of hauling trips for the demolition phase to 156 trips and increased the number of hauling trips for the mass excavation phase to 813 trips in an effort to accurately estimate the number of trips that will be required for material export.⁶⁴ The basis for each corrected input is explained in SWAPE's comments.

When these corrected input parameters are used to model emissions, SWAPE finds that the Project's construction emissions increase significantly compared to the CEQA Analysis' model.⁶⁵ Specifically, SWAPE finds that the Project's construction-related VOC emissions exceed the City of Oakland significance threshold of 54 pounds per day.⁶⁶ SWAPE explains that even just short-term exposure to VOC emissions can cause eye and respiratory tract irritation, headaches, dizziness, visual disorders, fatigue, loss of coordination, allergic skin reactions, nausea, and memory impairment.⁶⁷ Longer-term exposure can cause damage to the liver, kidneys, and central nervous system.⁶⁸ These health problems can affect both on-site construction workers and the surrounding community.⁶⁹

Construction Emissions (lbs/day)					
	VOC	NO _x	CO	PM ₁₀	PM _{2.5}
CEQA Analysis Model	0.7	5.8	9.2	0.7	0.4
City of Oakland Thresholds	54	54	-	82	54
<i>Exceed?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
SWAPE Model	55	34	60	9	4
City of Oakland Thresholds	54	54	-	82	54
<i>Exceed?</i>	Yes	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Therefore, SWAPE concludes that an updated CEQA evaluation should be prepared as part of an EIR that includes an updated model to adequately estimate the Project's emissions during construction. Furthermore, SWAPE concludes that

⁶³ *Id.*, at 12 – 13.

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.*, at 13.

⁶⁷ https://toxtown.nlm.nih.gov/text_version/chemicals.php?id=31.

⁶⁸ *Id.*

⁶⁹ SWAPE, p. 13.

additional mitigation measures must be identified and incorporated in the EIR to reduce VOC emissions to a less than significant level.⁷⁰

3. *The City Fails to Incorporate Sufficient Feasible Mitigation Measures To Reduce Significant VOC Emissions*

SWAPE notes that “[n]umerous additional and feasible mitigation measures are available to reduce VOC emissions, including the following which are routinely identified in other CEQA matters as feasible mitigation measures”:⁷¹

- Use of zero-VOC emissions paint (the CEQA Analysis only commits to using “low VOC coatings”);⁷²
- Use of materials that do not require paint; and
- Use of spray equipment with greater transfer efficiencies.

SWAPE concludes that when these mitigation measures are combined, “these measures offer a feasible way to effectively reduce the Project’s construction-related VOC emissions to a less than significant level.”⁷³ As such, CEQA mandates that the City prepare an EIR to adequately analyze and mitigate significant impacts from Project construction VOC emissions which exceed the City’s significance threshold.

⁷⁰ *Id.*

⁷¹ *Id.*

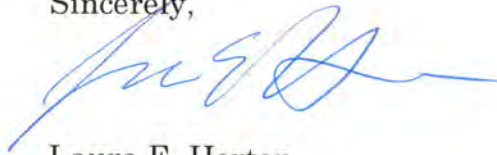
⁷² CEQA Analysis p. 97.

⁷³ SWAPE Comments, p. 13.

III. CONCLUSION

The City failed to comply with CEQA's procedural and evidentiary standards in its CEQA Analysis. As explained above, the CEQA Analysis fails to analyze and mitigate the Project's significant health risks posed to the surrounding community from DPM emissions and the Project's significant VOC emissions. Both of these significant impacts are new or more severe significant than previously analyzed, and mitigation measures, which are considerably different from those analyzed in the LMSAP EIR, would substantially reduce these significant effects, but have not been required in the CEQA Analysis. For these reasons, we urge the City to revise its analysis, identify feasible mitigation measure and disclose its revised analysis in an EIR, as required by CEQA, before the City considers approval of the Project.

Sincerely,



Laura E. Horton

LEH:ric
Attachments



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May 31, 2016

Laura E. Horton
Adams Broadwell Joseph & Cardoza
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Subject: Comments on the 14th & Alice Project

Dear Ms. Horton:

We have reviewed the 226 13th Street Project CEQA Analysis ("CEQA Analysis") and associated attachments/appendices for the proposed mixed-use development project ("Project") located in Oakland, California. The Project proposes to redevelop one parcel within the plan area of the Lake Merritt Station Area Plan (LMSAP) and plans to construct a building consisting of approximately 262 residential units, 198 parking spaces, and 12,090 square feet of retail space on 1.4 acres. The LMSAP Environmental Impact Report (LMSAP EIR) was certified in 2014, and it analyzed impacts associated with adoption and implementation of the LMSAP. Project-level analysis allows the use of CEQA streamlining and/or tiering provisions for projects that are developed under the LMSAP.

Our review concludes that the CEQA Analysis fails to adequately evaluate the Project's Air Quality impacts. Specifically, the CEQA Analysis models the Project's construction emissions using incorrect input parameters, and as a result, the Project's significant criteria air pollutant emissions are greatly underestimated. Furthermore, the CEQA Analysis concludes that construction of the Project would not expose sensitive receptors to substantial pollutant concentrations without providing any basis for this claim. Our health risk assessment shows, in fact, that construction of the Project will expose sensitive receptors to substantial pollutant concentrations; as a result, the significance determination made within the CEQA Analysis is incorrect. A project-specific Draft Environmental Impact Report (DEIR) should be prepared to adequately address these issues and incorporate additional mitigation.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The CEQA Analysis for the Project relies on emissions calculated from the California Emissions Estimator Model Version CalEEMod.2013.2.2 ("CalEEMod").¹ CalEEMod provides recommended default values based on site specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but CEQA requires that such changes be justified by substantial evidence.² Once all the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the Project's air pollution emissions, and make known which default values were changed as well as provide a justification for the values selected.³

When reviewing the Project's CalEEMod output files, we found that several of the values inputted into the model are not consistent with information disclosed in the CEQA Analysis. As a result, significant emissions associated with construction and operation of the Project are greatly underestimated. Indeed, a corrected model shows the Project will have significant VOC emissions. A DEIR should be prepared to adequately assess the potential impacts that operation of the Project may have on regional and local air quality.

The Provided CalEEMod Output Files are Incomplete

According to the CEQA Analysis, CalEEMod was used to estimate the Project's construction and operational criteria air pollutant and greenhouse gas (GHG) emissions (Table AIR-1, p. 37, p. 52). The Project's construction-related criteria air pollutant emissions are summarized in Table AIR-1 of the CEQA Analysis. According to this table, the CalEEMod output files for the Project's construction-related air model can be found in Appendix A of the CEQA Analysis (see excerpt below) (CEQA Analysis, p. 37).

¹ CalEEMod website, available at: <http://www.caleemod.com/>

² CalEEMod User Guide, p. 2, 9, available at: <http://www.caleemod.com/>

³ CalEEMod User Guide, p. 7, 13, available at: <http://www.caleemod.com/> (A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.)

TABLE AIR-1
UNMITIGATED EMISSIONS FROM CONSTRUCTION (AVERAGE LBS PER DAY)^a

Construction Year (phase)	ROG	NO _x	CO	PM10	PM2.5
Project					
Average Daily Construction Emissions	0.7	5.8	9.2	0.7	0.4
City of Oakland Thresholds	54	54	-	82	54
Significant (Yes or No)?	No	No	-	No	No

^a Emissions are average daily pounds per day during the project's anticipated approximate 24-month construction period.

SOURCE: CalEEMod and EMFAC2014 (see Appendix A).

Furthermore, Table GHG-1 of the CEQA Analysis states that the CalEEMod output files for the Project's operational air model can be found in Appendix E (see excerpt below) (p. 53).

TABLE GHG-1
PROPOSED PROJECT GHG EMISSIONS (METRIC TONS PER YEAR)^{a,b,c}

Project Component	CO ₂ e ^d
Project	
Area Source Emissions	12
Energy Emissions	356
Mobile Emissions ^e	1,159
Solid Waste	67
Water and Wastewater	44
Annualized Construction Emissions (Over 40 Years)	64
Total Increase	1,702
City of Oakland Annual Screening Threshold	1,100
Project Exceeds Annual Threshold?	Yes
Total Emissions per Service Population (543 residents and employees)	3.0
City Emissions per Service Population Threshold	4.6
Project Exceeds Efficiency Threshold?	No

^a Project operational emissions estimates were made using CalEEMod, version 2013.2.2 (see Appendix E).

^b Emissions from stationary sources such as backup generators are assessed under a separate 10,000 metric ton per year threshold.

^c The analysis does not account for changes in CO₂ flux from tree planting and removal. Because the project would plant 40 trees for the 14 that would be removed, it is anticipated that the project would result in long-term carbon sequestration benefits.

^d CalEEMod utilizes global warming potential (GWP) from the Intergovernmental Panel on Climate Change's (IPCC) Second Assessment Report (SAR). The GWPs from the SAR have been superseded by revised values published in IPCC's Fourth Assessment Report. Accordingly, CO₂e was calculated based on the CalEEMod outputs for CO₂, methane (CH₄), and nitrous oxide (N₂O) and the GWPs from IPCC's Fourth Assessment Report (which are 25 for CH₄ and 298 for N₂O).

^e The GHG analysis relied on inputs from the Transportation Impact Analysis prepared for the proposed project (see Appendix H).

Review of both Appendix A and Appendix E, however, demonstrates that the full CalEEMod output files were not provided for either construction or operation, as is suggested by the CEQA Analysis. Specifically, after reviewing Appendix A, we found that the construction CalEEMod output files were completely omitted. The only information provided on the modeling assumptions used to estimate the Project's construction emissions were found in Appendix E, which only discloses a portion of the

construction assumptions used to model emissions (CEQA Analysis, pp. 217-223). This presents a significant problem, because without the full output files, we are unable to verify that the assumptions used within the model are correct, and cannot determine whether any other default values were changed. By failing to provide the construction CalEEMod output files, we are still lacking important information. For example, without the complete output files, we have no insight on which default values were utilized and which were changed, what phase type (site preparation, grading, paving, etc) was utilized for each construction phase, how many square feet of architectural coating is assumed for residential interior/exterior and non-residential interior/exterior surfaces, and whether any construction mitigation measures were applied to the model. As a result, the emission estimates provided in the CEQA Analysis are unreliable and should not be used to determine Project significance.

Similarly, Appendix E includes part of the CalEEMod output files for the Project's operational emissions but does not include key parts of the report, including what assumptions were used in applying the model to the Project, what mitigation measures were implemented, what default settings were changed, and why (CEQA Analysis, pp. 216, pp. 224, pp. 228, and pp. 232). For example, the "226 13th Street Operation" summer scenario output file jumps from section 2.0 to section 4.0 and from section 6.0 to 9.0 (CEQA Analysis, pp. 225-226). Similarly, the annual scenario output file jumps from section 2.0 to 4.0 and omits section 9.0 (CEQA Analysis, pp. 229-231). This means that the output files were manually altered so that specific sections of the modeling outputs that are automatically included when CalEEMod is ran were removed from the file. The omission of this information deviates from the technical appendices attached to CEQA documents for other construction projects in California.⁴ Without providing the entire CalEEMod report, the reviewer cannot fully understand the assumptions that were made about the Project, and cannot verify whether those assumptions are justified.

Use of Incorrect Intensity Factors

The CalEEMod model relies upon an incorrect carbon dioxide (CO₂) intensity factor to estimate the Project's operational emissions. When Pacific Gas & Electric (PG&E) is chosen as the utility provider for the proposed Project, CalEEMod assumes a default CO₂ intensity factor of 641.35 pounds per megawatt-hour (lb/MWhr). This intensity factor is used to estimate the CO₂ emissions generated from electricity usage during Project operation. The intensity factor used in the Project's operational CalEEMod model, however, was adjusted from the default value to 309 lb/MWhr (see excerpt below) (CEQA Analysis, pp. 224, pp. 228).

tblProjectCharacteristics	CO2IntensityFactor	641.35	309
---------------------------	--------------------	--------	-----

⁴ Compare CEQA Analysis, Appendix E (containing only the final emissions calculations) with, e.g., Appendix E, "Air Quality and Greenhouse Gas Emissions – CalEEMod, Report, HRA Dispersion Model and ISCST3 Model" prepared by the City of Oakland for the Jack London Square 4th & Madison project (CalEEMod output files with descriptions of construction phases, equipment, and changes to default settings). Available at: <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak054487.pdf>

The User Entered Comments & Non-Default Data attempts to justify this reduction, stating, "2019 RPS Emission Factors (PGE)" (CEQA Analysis, pp. 224, pp. 228). This justification, however, does not clearly state the source of the 309 lb/MWhr value or where the document that contains this value can be obtained. Furthermore, there is no discussion anywhere else in the CEQA Analysis that supports reducing the CO₂ intensity factor, and as a result, this change in the default value cannot be verified.

Regardless, we believe this value was taken from the Greenhouse Gas Emission Factors: Guidance for PG&E Customers, which states that for the year 2019, the future emission factor may be 307 lbs CO₂/MWhr, which is close to the 309 lbs CO₂/MWhr value used in the CalEEMod model.⁵ When reviewing this document, however, we found that it specifically states that "The information in this document is not to be used for mandatory GHG reporting, financial analysis, or regulatory compliance, and does not necessarily reflect the approaches taken by PG&E for its own regulatory compliance purposes."⁶ Therefore, reducing the CO₂ intensity factor to reflect the emissions that may be generated from electricity consumption in 2019 after buildout of the proposed Project in the CalEEMod model is inconsistent with the recommendations of this document, and should not be used to estimate the significance of the Project's GHG emissions under CEQA.

Furthermore, the future emission factors provided within this document do not take into consideration the impact of the drought on hydroelectric power after 2010, and as a result, the actual CO₂ intensity factor for 2019 may be higher than what is provided. This is shown in the recently verified intensity factor for 2014 of 435 lbs CO₂/MWhr, which was higher than PG&E's previous estimated intensity factor of 412 lbs CO₂/MWhr.⁷

Additionally, the PG&E document states that "to estimate GHG emissions in a recent or future year for which an emission factor is not yet available, we recommend using an average of the five most recent coefficients available."⁸ The PG&E Emissions Factor Summary estimates the five year average for CO₂ to be 457 lbs/MWh. Therefore, at the very least, an intensity factor of 457 lbs/MWh should have been applied to the Project, which is still much greater than the 309 lb/MWh intensity factor used within the CalEEMod model. As a result, the Project's GHG emissions are greatly underestimated.

Furthermore, the default values for the CH₄ Intensity factor and N₂O Intensity factor were decreased from 0.029 lb/MWhr and 0.006 lb/MWhr, respectively, to 0.021 lb/MWhr for CH₄ and 0.004 lb/MWhr for N₂O. The justification for these changes in the User Entered Comments & Non-Default Data simply states, "CH₄ and N₂O from eGrid" (CEQA Analysis, pp. 224). This justification, however, provides no source for these values and these values are not discussed elsewhere in the CEQA Analysis. As a result,

⁵ Available at:

http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

⁶ *Ibid.*, p. 1

⁷ Compare: pgecurrents.com/, with:

http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

⁸ *Ibid.*, p. 2

these values cannot be verified and therefore should not be utilized. CalEEMod allows users to change default values, but these changes are required to be justified by substantial evidence.⁹ Stating that the CH₄ and N₂O values are from the eGrid does not provide substantial evidence that demonstrates that these values accurately reflect future intensity factors. As a result, the Project's GHG emissions are greatly underestimated.

EMFAC2014 Emission Factors Insufficiently Supported

According to Appendix E of the CEQA Analysis, "GHG emissions from construction and operation of the residential and retail land uses were estimated using emission factors and methodologies from CalEEMod (version 2013.2.2) and EMFAC2014" (Appendix E, p. 4). This statement is further supported by Table AIR-1 of the CEQA Analysis, which also indicates that the Project's construction and operational emissions were estimated using CalEEMod and EMFAC2014 (see excerpt below) (p. 37).

**TABLE AIR-1
UNMITIGATED EMISSIONS FROM CONSTRUCTION (AVERAGE LBS PER DAY)^a**

Construction Year (phase)	ROG	NO _x	CO	PM10	PM2.5
Project					
Average Daily Construction Emissions	0.7	5.8	9.2	0.7	0.4
City of Oakland Thresholds	54	54	-	82	54
Significant (Yes or No)?	No	No	-	No	No

^a Emissions are average daily pounds per day during the project's anticipated approximate 24-month construction period.

SOURCE: CalEEMod and EMFAC2014 (see Appendix A).

While the use of EMFAC2014 to estimate on-road mobile-source emissions may be adequate, the CEQA Analysis does not provide adequate sources or support documentation for the EMFAC2014 emission factors utilized in the models. The EMFAC2014 Emissions Database requires specific input parameters to provide accurate emission factors. These parameters include the region, calendar year, season, vehicle category, model year, speed, and fuel type.¹⁰ Neither the CEQA Analysis, nor the associated appendices provide this information, which is critical to determining the correct emission rate. As a result, when we attempted to compare the EMFAC2014 emission rates utilized in the CalEEMod models with the EMFAC2014 Emissions Database in an effort to determine which emission factors were used, we were unable to do so. By failing to provide the input parameters used in the EMFAC2014 Emissions Database, the revised mobile-source emission rates utilized in the CalEEMod models are not verifiable and are therefore unreliable. As such, the omission of these sources makes the resulting air pollutant emission estimates unreliable.

⁹ CalEEMod User Guide, p. 2, 9, available at: <http://www.caleemod.com/>

¹⁰ <http://www.arb.ca.gov/emfac/2014/>

Fails to Include Grading Equipment for Grading Phase

According to the construction assumptions provided in Appendix E of the CEQA Analysis, it is estimated that approximately 1.38 acres of the Project site will be graded (see excerpt below) (CEQA Analysis, pp. 221).

PM Emissions from Grading

$$E = A * EF$$

	Phase 4:2017
PM10 E (lbs/day)	0.15
PM10 E (tons/year)	0.00
EF (lbs/acre)	1.06
Acre per day	0.14
Acres	1.38

	Phase 4:2017
PM2.5 E (lbs/day)	0.02
PM2.5 E (tons/year)	0.00
EF (lbs/acre)	0.11
Acre per day	0.14
Acres	1.38

Appendix E of the CEQA Analysis assumes that the following equipment will be used during the grading phase: two extendable forklifts, three generators, one excavator and one loader (CEQA Analysis, pp. 218). None of these seven pieces of off-road construction equipment, however, are actually capable of grading. According to Appendix A of the CalEEMod User's Guide, CalEEMod estimates the acres of grading for a project based on the equipment list and the number of days in the grading or site preparation phase according to the maximum number of acres a given piece of equipment can pass over in an 8-hour workday.¹¹ According to the table provided in the guide, only crawler tractors, graders, rubber tired dozers, and scrapers have grading capabilities (see excerpt below).¹²

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

Therefore, the equipment listed for the grading phase in the CEQA Analysis would not actually be able to undergo any grading activities. This presents a significant issue, as the CEQA Analysis explicitly states

¹¹ Appendix A Calculation Details for CalEEMod, p. 8-9, available at: <http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2>

¹² *Ibid.*

that 1.38 acres will be graded during construction of the Project. As a result, the construction emissions from grading are underestimated.

As previously stated, the CEQA Analysis assumes that 1.38 acres will be graded during the 10-day grading phase, which means that approximately 0.138 acres will be graded per day (pp. 221). Assuming that a grader will grade 0.5 acres of land over an 8 hour day, or approximately 0.063 acres of land per hour, a grader would have to be in operation for approximately 2.24 hours per day to successfully grade 1.38 acres of land. Therefore, an updated construction CalEEMod model should be prepared that includes a grader in the equipment list for the grading phase of construction, operating for at least two hours per day.

Underestimate Paving Square Footage and Equipment

According to the construction assumptions in Appendix E of the CEQA Analysis, it is estimated that only 10,000 square feet of paving will occur (see excerpt below) (CEQA Analysis, pp. 222).

ROG emissions from Paving

$$E = E_f \times A_{\text{parking}}$$

	Phase 40:2018
VOC Emissions € (lbs/day)	0.15
VOC Emissions € (ton/year)	0.00
EF (lbs VOC/acre)	2.62
Square feet	10000
Acre	0.2296

However, this assumption is entirely incorrect, and greatly underestimates the amount of paving that will actually occur over the course of construction. According to the operational CalEEMod output files, which provide the land use type and associated floor surface area of each land use, the proposed Project will include an enclosed parking structure with a surface area of 79,200 square feet (see excerpt below) (CEQA Analysis, pp. 224).

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	198	Space	0.00	79,200.00	0
Apartments Mid Rise	262.00	Dwelling Unit	1.40	220,248.00	509
Regional Shopping Center	12.09	1000sqft	0.28	12,090.00	0

The CalEEMod User's Guide describes paving as "...the laying of concrete or asphalt such as in parking lots or roads."¹³ By this definition, construction of the proposed parking structure will require approximately 79,200 square feet of paving. Therefore, the assumption that only 10,000 square feet of paving will be required is incorrect, resulting in an underestimation of the Project's construction emissions.

¹³ CalEEMod User Guide, pp. 30, available at: <http://www.caleemod.com/>

In addition to this underestimation of the paving square footage, the CEQA Analysis also fails to include the proper equipment needed to actually execute the proposed paving activities. Paving is assumed to occur during L1 Parking Build Out (Phase 27), Mezz Parking Build Out (Phase 29), and Site Improvements (Phase 40) (CEQA Analysis, pp. 217). According to the off-road equipment summary table, the only pieces of construction equipment that will be utilized during these phases are two extendable forklifts and three generators (CEQA Analysis, pp. 218). These pieces of equipment, alone, would not be able to execute the proposed paving activities, as they have no paving capabilities. As a result, the emissions estimates provided in the CEQA Analysis do not accurately reflect the emissions that would occur during the paving construction phase.

CalEEMod provides a default table of construction equipment based on project acreage and phase type (see excerpt below).

Table 3.2 Equipment Lists Based on Project Acreage

PhaseType	EquipmentType	Number of Equipment																			
		≥1	≥2	≥3	≥4	≥5	≥6	≥7	≥8	≥9	≥10	≥11	≥12	≥13	≥14	≥15	≥16	≥17	≥18	≥19	≥20
Demolition	Excavators			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Rubber Tired Dozers	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Concrete/Industrial Saws	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Tractors/Loaders/Backhoes	2	3	3																	
Site Preparation	Graders	1	1	1																	
	Tractors/Loaders/Backhoes	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Rubber Tired Dozers			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Scrapers			1																	
Grading	Rubber Tired Dozers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Concrete/Industrial Saws																				
	Tractors/Loaders/Backhoes	2	1	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Graders		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Building Construction	Excavators			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Scrapers					2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Cranes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Forklifts	2	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Architectural Coating	Tractors/Loaders/Backhoes	2	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Welders		3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Generator Sets		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Air Compressors	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Paving	Pavers	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Cement and Mortar Mixers	4	1	1	2																
	Rollers	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Tractors/Loaders/Backhoes	1	1	1	1																
	Paving Equipment	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

According to the table above, for a one acre project, it is estimated that one paver, four cement and mortar mixers, one roller, and one tractor/loader/backhoe will be required for paving.¹⁴ This default information is based on "a survey of construction sites grouped by construction phase and lot acreage performed by SCAQMD which can be found in Appendix E. The default construction equipment list and phase length are most appropriate for the size and types surveyed..."¹⁵ Therefore, because the equipment list provided in the CEQA Analysis fails to actually include any equipment with the ability to pave the proposed parking structure and other surfaces, the default CalEEMod equipment list should be utilized.

The assumptions used in the CEQA Analysis' construction CalEEMod model significantly underestimate the necessary equipment required for paving and as a result, the Project's construction emissions are

¹⁴ Appendix E Technical Source Documentation, p.3-4 , available at: <http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendix.pdf?sfvrsn=2>

¹⁵ CalEEMod User Guide, p. 24, available at: <http://www.caleemod.com/>

underestimated. An updated model should be prepared that correctly estimates the construction equipment and emissions resulting from the paving phase of construction.

Failure to Include Appropriate Construction Equipment for Architectural Coating

Based on the phase descriptions provided in the CEQA Analysis, the following phases will include architectural coating activities, such as applying paints and finishes to the interior and exterior of the final structures: Exterior Finishes (Phase 22), L2 Finishes (Phase 31), L3 Finishes (Phase 33), L4 Finishes (Phase 35), L5 Finishes (Phase 37), and L6 Finishes (Phase 39) (CEQA Analysis, pp. 217). According to the CEQA Analysis' off-road equipment summary table, all of these phases will only require two extendable forklifts and three generators, and the Exterior Finishes phase will require two additional extendable lifts (CEQA Analysis, pp. 218). None of these pieces of equipment, however, are capable of applying architectural coatings. As a result, the Project's architectural coating emissions are significantly underestimated.

As previously stated, CalEEMod provides a default table of construction equipment based on project acreage and phase type. According to this table, at the very least, an additional air compressor should have been included in the equipment list for the finishing phases. According to the CalEEMod User's Guide, "Default information is based on a survey of construction sites grouped by construction phase and lot acreage performed by SCAQMD which can be found in Appendix E. The default construction equipment list and phase length are most appropriate for the size and types surveyed..."¹⁶ Therefore, because the equipment list assumed in the CEQA Analysis fails to actually include any equipment with the ability to apply coatings and finishes, an additional air compressor should be utilized. By failing to account for this additional piece of equipment, the Project's construction emissions are underestimated.

Failure to Include Drill Rig in Equipment Estimates

The CEQA Analysis states that "a drilling rig would be required for shoring and caissons" (p. 26). However, the off-road equipment table does not include a drill rig in its construction equipment assumptions (see excerpt below) (CEQA Analysis, pp. 218).

¹⁶ CalEEMod User Guide, p. 24, available at: <http://www.caleemod.com/>

Offroad Equipment

ID	Year	Days	Equip	#/day	hrs/day	HP	LF	Tons per year						Metric tons per year			
								ROG	NOX	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
All Phases	2016	44	Extendable Forklift	2	4	200	0.20	0.0	0.1	0.0	0.0	0.0	0.0	7.1	0.0	0.0	7.3
		44	Generator	3	6	100	0.74	0.0	0.3	0.2	0.0	0.0	0.0	33.3	0.0	0.0	33.6
All Phases	2017	260	Extendable Forklift	2	4	200	0.20	0.0	0.5	0.2	0.0	0.0	0.0	41.6	0.0	0.0	42.2
		260	Generator	3	6	100	0.74	0.2	1.6	1.3	0.1	0.1	0.0	196.8	0.0	0.0	198.7
All Phases	2018	217	Extendable Forklift	2	4	200	0.20	0.0	0.4	0.1	0.0	0.0	0.0	34.1	0.0	0.0	34.7
		217	Generator	3	6	100	0.74	0.1	1.2	1.1	0.1	0.1	0.0	164.3	0.0	0.0	165.8
Phase 2	2016	19	Excavator	1	8	300	0.38	0.0	0.1	0.0	0.0	0.0	0.0	8.8	0.0	0.0	8.9
Phase 2		19	Loader	1	8	300	0.36	0.0	0.1	0.0	0.0	0.0	0.0	8.3	0.0	0.0	8.4
Phase 3	2016	9	Excavator	1	8	300	0.38	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	4.0
Phase 3		9	Loader	1	8	300	0.36	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	3.8
Phase 3	2017	1	Excavator	1	8	300	0.38	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.7
Phase 3		1	Loader	1	8	300	0.36	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6
Phase 4	2017	10	Excavator	1	8	300	0.38	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	4.6
Phase 4		10	Loader	1	8	300	0.36	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.4
Phase 5	2017	20	Excavator	1	8	300	0.38	0.0	0.1	0.0	0.0	0.0	0.0	9.1	0.0	0.0	9.2
Phase 5		20	Loader	1	8	300	0.36	0.0	0.1	0.0	0.0	0.0	0.0	8.6	0.0	0.0	8.7
Phase 21	2018	20	Extendable Lift	2	8	100	0.31	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	4.9
Phase 22	2018	147	Extendable Lift	2	8	100	0.31	0.0	0.2	0.3	0.0	0.0	0.0	35.8	0.0	0.0	36.3
Phase 24	2017	20	Extendable Lift	2	8	100	0.31	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	5.0

Note: Only those phases with equipment activity are shown.

Specifically, a drilling rig should have been included in the equipment list for the following phases: 1st Floor Deck Shoring (Phase 7), Mezz Floor Deck Shoring (Phase 10), and Podium Deck Shoring (Phase 13). By failing to include the drill rig in the construction assumptions, the emissions resulting from these assumptions are underestimated and are therefore unreliable.

Underestimate Number of Hauling Trucks for Demolition and Excavation

The CEQA Analysis states that the Project will export approximately 1,300 cubic yards of demolition material and 6,500 cubic yards of excavated soil during construction (p. 26). However, the number of truck trips anticipated for each of these phases significantly underestimates the number of trips that will actually be required to transport this material offsite. As a result, the Project's construction emissions are significantly underestimated.

In order to determine how many hauling truck trips will be required, we assumed that each truck has a capacity of 20 tons, or 16 cubic yards of material per load, which is consistent with the truck capacities used in CalEEMod.¹⁷ CalEEMod requires that building demolition be inputted as tons of debris or building square footage; therefore, we converted the demolition material volume of 1,300 cubic yards to a total tonnage. CalRecycle provides default volume-to-weight conversion factors based on material type. According to this table, "Construction Debris, Asphalt or Concrete: Loose" has a weight of approximately 2,400 pounds per cubic yard.¹⁸ Using this conversion factor, the material produced during demolition activities would weigh approximately 1,560 tons, resulting in a total of 78 hauling trucks, or approximately 156 one-way truck trips.¹⁹

Similarly, approximately 6,500 cubic yards of material will be exported off-site during the mass excavation phase. Using a capacity of 16 cubic yards per truck, export of this material will require a total of 406 trucks, or approximately 813 one-way truck trips (see table below).

¹⁷ *Ibid.*, p. 27.

¹⁸ <http://www.calrecycle.ca.gov/swfacilities/cdi/tools/Calculations.htm>

¹⁹ [1,300 cubic yards x (2,400 lbs/cubic yard)] / [2000 lbs/ton] = 1,560 tons

Phase	Phase Name	Working Days	Material (CY)	Material (tons)	Hauling Truck Capacity	Material Exported Per Day	Trucks Per Day	Total # of Trucks
Abatement & Demolition	Phase 2	19	1,300	1,560	20 tons	82	4	78
Mass Excavation	Phase 3	10	6,500	-	16 cubic yards	650	41	406

According to the CEQA Analysis, it is assumed that only 19 total truck trips will be required during the demolition phase and 80 total truck trips will be required during the excavation phase (pp. 220). When these hauling trips are compared to the hauling trips estimated in the table above, we find that the CEQA Analysis underestimates the number of hauling trips required during the demolition phase by 137 total trips, and underestimates the number of hauling trips required during the mass excavation phase by 733 total trips. This presents a significant issue, as hauling trucks emit substantial amounts of pollutant emissions when in operation. Therefore, by failing to include the correct amount of hauling truck trips in the model, the Project's construction emissions are significantly underestimated.

Updated Analysis Indicates Increase in Pollutant Emissions

In an effort to accurately estimate the Project's emissions, we prepared an updated air model using CalEEMod. We used a CO₂ intensity factor of 457 lbs/MWh, which is consistent with guidance set forth by PG&E, and we relied upon the CalEEMod default values of 0.029 lb/MWhr and 0.006 lb/MWhr for the CH₄ Intensity factor and N₂O Intensity factor, respectively. We updated the equipment list to include an additional grader during the grading phase, paving-specific equipment during the phases that require paving, an additional air compressor for the finishes and coating phases, and an additional drilling rig for the shoring phases. We also increased the number of hauling trips for the demolition phase to 156 trips and increased the number of hauling trips for the mass excavation phase to 813 trips in an effort to accurately estimate the number of trips that will be required for material export.

When correct, site-specific input parameters are used to model emissions, we find that the Project's construction emissions increase significantly compared to the CEQA Analysis' model. Specifically, we find that the Project's construction-related VOC emissions exceed the City of Oakland significance threshold of 54 pounds per day. Consistent with the CEQA Analysis, we averaged the Project's construction emissions over a 24-month period (see table below).

Construction Emissions (lbs/day)					
	VOC	NO _x	CO	PM ₁₀	PM _{2.5}
CEQA Analysis Model	0.7	5.8	9.2	0.7	0.4
City of Oakland Thresholds	54	54	-	82	54
<i>Exceed?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
SWAPE Model	55	34	60	9	4
City of Oakland Thresholds	54	54	-	82	54
<i>Exceed?</i>	Yes	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

As demonstrated in the table above, when correct input parameters are used, construction-related VOC emissions of 55 lbs/day exceed the City of Oakland's average daily threshold of 54 lbs/day. Our analysis demonstrates that when correct, site-specific input values are used, the Project's construction emissions may present a significant air quality impact. As a result, an updated CEQA evaluation should be prepared that includes an updated model to adequately estimate the Project's emissions during construction, and should include additional mitigation in an effort to reduce the Project's emissions to less-than-significant levels.

Our updated CalEEMod model demonstrates that when Project activities are modeled correctly, construction-related VOC emissions would result in a significant impact. Even just short-term exposure to VOC emissions can cause eye and respiratory tract irritation, headaches, dizziness, visual disorders, fatigue, loss of coordination, allergic skin reactions, nausea, and memory impairment.²⁰ Longer-term exposure can cause damage to the liver, kidneys, and central nervous system.²¹ These health problems can affect both on-site construction workers and the surrounding community. Therefore, additional mitigation measures must be identified and incorporated in a DEIR to reduce these emissions to a less than significant level. Numerous additional and feasible mitigation measures are available to reduce VOC emissions, including the following which are routinely identified in other CEQA matters as feasible mitigation measures:

Use of Zero-VOC Emissions Paint

The CEQA Analysis only commits to using low VOC coatings beyond local requirements (pp. 97). The use of zero-VOC emission paint has been required for numerous projects that have undergone CEQA review. Zero-VOC emission VOC paints are commercially available. Other low-VOC standards should be incorporated into mitigation including use of "supercompliant" paints, which have a VOC standard of less than 10 g/L.²²

Use of Material that do Not Require Paint

Using materials that do not require painting is a common mitigation measure where VOC emissions are a concern. Interior and exterior surfaces, such as concrete, can be left unpainted.

Use of Spray Equipment with Greater Transfer Efficiencies

Various coatings and adhesives are required to be applied by specified methods such as electrostatic spray, high-volume, low-pressure (HVLP) spray, roll coater, flow coater, dip coater, etc. in order to maximize the transfer efficiency. Transfer efficiency is typically defined as the ratio of the weight of coating solids adhering to an object to the total weight of coating solids used in the application process, expressed as a percentage. When it comes to spray applications, the rules typically require the use of either electrostatic spray equipment or HVLP spray equipment. The SCAQMD is now able to certify high-

²⁰ https://toxtown.nlm.nih.gov/text_version/chemicals.php?id=31.

²¹ *Id.*

²² <http://www.aqmd.gov/home/programs/business/business-detail?title=super-compliant-coatings>

volume low-pressure (HVLP) spray applicators and other application technologies at efficiency rates of 65 percent or greater.²³

When combined together, these measures offer a feasible way to effectively reduce the Project's construction-related VOC emissions to a less than significant level. As such, these mitigation measures should be considered in a DEIR to reduce these emissions to a less than significant level.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The California Air Resources Board ("CARB") identifies diesel particulate matter ("DPM") as a toxic air contaminant (TAC) based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects.²⁴ In 2012, the International Agency for Research on Cancer listed diesel engine exhaust as "carcinogenic to humans."²⁵ As with other air pollutants, DPM emissions during development construction can impact both on-site construction workers and the surrounding community such as residential sensitive receptors. The CEQA Analysis concludes that the health risk posed to nearby sensitive receptors from exposure to DPM emissions released during Project construction would be less than significant, yet fails to quantify the risk and compare it to applicable thresholds (p. 39). The CEQA Analysis attempts to justify the omission of an actual health risk assessment ("HRA"), stating, "Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9,40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities" (p. 39). Furthermore, the CEQA Analysis states that, "The LMSAP EIR determined that sensitive receptors in proximity to construction-related DPM emissions (generally within 200 meters) could be subject to increased cancer risk, chronic health problems, and acute health risk. However, all future development projects pursuant to the LMSAP would be subject to basic construction control measures through implementation of the City's SCA 19. SCA-AIR-1 requires implementation of construction-related best management practices to substantially reduce construction-related fugitive dust and DPM impacts to a less-than-significant level" (p. 39). This justification, however, is incorrect.

Although the CEQA Analysis states that the Project would require to include construction control measures through implementation of Standard Conditions of Approval (SCAs), the risk should still be quantified to determine which measures must be applied to reduce DPM emissions and if the measures will reduce emissions to levels that will not cause a significant impact. The CEQA Analysis openly states that the LMSAP EIR determined that sensitive receptors may be subject to an increased cancer risk due to construction activities, so therefore the risk should be quantified in order to determine if the control measures will reduce DPM emissions to adequate levels.

²³ <http://www.aqmd.gov/home/permits/spray-equipment-transfer-efficiency>

²⁴ <http://www.arb.ca.gov/research/diesel/diesel-health.htm>.

²⁵ *Id.*

Furthermore, the CEQA model assumes that because construction would occur over a short period of time, the health risk posed from construction activities would be negligible. This determination, however, is in contrast to the most recent guidance published by the Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing recommendations for health risk assessments in California. In February of 2015, OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was formally adopted in March of 2015.²⁶ This guidance document describes the types of projects that warrant the preparation of a health risk assessment. Construction of the Project will produce emissions of DPM, a human carcinogen, through the exhaust stacks of construction equipment over a construction period of two years, from November 2016 to October 2018. The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.²⁷ This recommendation reflects the most recent health risk assessment policy, and as such, an assessment of health risks to nearby sensitive receptors from construction should be included in a revised CEQA evaluation for the Project. In an effort to demonstrate this, we prepared a simple screening-level health risk assessment. The results of our assessment, as described below, demonstrate that construction-related DPM emissions may result in a potentially significant health risk impact.

As of 2011, the EPA recommends AERSCREEN as the leading air dispersion model, due to improvements in simulating local meteorological conditions based on simple input parameters.²⁸ The model replaced SCREEN3, and AERSCREEN is included in OEHHA²⁹ and CAPCOA³⁰ guidance as the appropriate air dispersion model for Level 2 health risk screening assessments (“HRSAs”). A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project.

We prepared a preliminary health risk screening assessment of the Project's construction emissions using the annual estimates from our updated CalEEMod model, which is attached to this letter. The CalEEMod annual emissions indicate that construction activities will generate approximately 897.2 pounds of DPM over a 728 day construction period. The AERSCREEN model relies on a continuous average emissions rate to simulate maximum downwind concentrations from point, area, and volume emission sources. To account for the variability in construction equipment usage over the seven phases of Project construction, we calculated an average DPM emission rate by the following equation.

²⁶ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html

²⁷ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-18

²⁸ “AERSCREEN Released as the EPA Recommended Screening Model,” USEPA, April 11, 2011, available at: http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf

²⁹ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf

³⁰ “Health Risk Assessments for Proposed Land Use Projects,” CAPCOA, July 2009, available at: http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf

$$\text{Emission Rate } \left(\frac{\text{grams}}{\text{second}} \right) = \frac{897.2 \text{ lbs}}{728 \text{ days}} \times \frac{453.6 \text{ grams}}{\text{lb}} \times \frac{1 \text{ day}}{24 \text{ hours}} \times \frac{1 \text{ hour}}{3,600 \text{ seconds}} \approx \mathbf{0.00647 \text{ g/s}}$$

Construction activity was simulated as a 1.4 acre rectangular area source in AERSCREEN, with dimensions of 95 meters by 60 meters. A release height of three meters was selected to represent the height of exhaust stacks on construction equipment, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.

The AERSCREEN model generated maximum reasonable estimates of single hour downwind DPM concentrations from the Project site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant may be estimated by multiplying the single-hour concentration by 10%.³¹ The maximum single-hour downwind concentration in the AERSCREEN output was approximately 9.825 µg/m³ DPM 100 meters downwind, a distance that is most representative of the sensitive receptor location at 112 meters (370 feet). The annualized average concentration for the sensitive receptor was estimated to be 0.9825 µg/m³.

We calculated the excess cancer risk for each sensitive receptor location, for adults, children, and/or infant receptors using applicable HRA methodologies prescribed by OEHHA. OEHHA recommends the use of Age Sensitivity Factors (“ASFs”) to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution.³² According to the revised guidance, quantified cancer risk should be multiplied by a factor of ten during the first two years of life (infant), and by a factor of three for the subsequent fourteen years of life (child aged two until sixteen). Furthermore, in accordance with guidance set forth by the BAAQMD, we used 95th percentile breathing rates for infants and children and 80th percentile breathing rates for adults.³³ We used a cancer potency factor of 1.1 (mg/kg-day)⁻¹ and an averaging time of 25,550 days. The results of our calculations are shown below.

Parameter	Description	Units	Adult	Child	Infant
C _{air}	Concentration	µg/m ³	0.9825	0.9825	0.9825
DBR	Daily breathing rate	L/kg-day	233	572	1090
EF	Exposure Frequency	days/year	365	365	365
ED	Exposure Duration	years	14	14	2
AT	Averaging Time	days	25550	25550	25550
	Inhaled Dose	(mg/kg-day)	4.6E-05	1.1E-04	3.1E-05
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1	1.1
ASF	Age Sensitivity Factor	-	1	3	10
Cancer Risk			5.04E-05	3.71E-04	3.37E-04

³¹ http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf

³² “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf

³³ “Air Toxics NSR Program Health Risk Screening Analysis (HRSa) Guidelines,” BAAQMD, January 2010, available at: http://www.baaqmd.gov/~media/Files/Engineering/Air%20Toxics%20Programs/hrsa_guidelines.ashx, p. 2-3

The excess cancer risk to adults, children, and infants during Project construction for the sensitive receptors located 100 meters away are 50.4, 371, and 337 in one million, respectively. Consistent with OEHHA guidance, exposure was assumed to begin in the infantile stage of life to provide the most conservative estimates of air quality hazards. The adult, child, and infantile exposure for the sensitive receptors all exceed the BAAQMD threshold of 10 in one million. As a result, a refined health risk assessment must be prepared and included in a DEIR to examine air quality impacts generated by Project construction using site-specific meteorology and specific equipment usage schedules.

Our health risk assessment, as described in the previous section, demonstrates that construction of the Project would, in fact, result in significant health risk impact. Therefore, additional mitigation measures should be identified and incorporated to reduce the Project's construction diesel exhaust emissions to a less-than-significant level. Additional mitigation measures can be found in the California Air Pollution Control Officers Association's ("CAPCOA") *Quantifying Greenhouse Gas Mitigation Measures*, which attempt to reduce Greenhouse Gas (GHG) levels, as well as reduce Criteria Air Pollutants such as particulate matter (PM).³⁴ Mitigation for particulate matter emissions should include consideration of the following measures in an effort to reduce construction emissions to a level that would result in a less-than-significant health risk impact.

Limit Construction Equipment Idling Beyond Regulation Requirements

Heavy duty vehicles will idle during loading/unloading and during layovers or rest periods with the engine still on, which requires fuel use and results in emissions. The California Air Resources Board ("CARB") Heavy-Duty Vehicle Idling Emissions Reduction Program limits idling of diesel-fueled commercial motor vehicles to five minutes. Reduction in idling time beyond the five minutes required under the regulation would further reduce fuel consumption and thus emissions. The Project applicant must develop an enforceable mechanism that monitors the idling time to ensure compliance with this mitigation measure.

Require Implementation of Diesel Control Measures

The Northeast Diesel Collaborative ("NEDC") is a regionally coordinated initiative to reduce diesel emissions, improve public health, and promote clean diesel technology. The NEDC recommends that contracts for all construction projects require the following diesel control measures:³⁵

- All diesel onroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA 2007 onroad emissions standards or (2) emission control technology verified by EPA³⁶ or the California Air Resources Board (CARB)³⁷ to reduce PM emissions by a minimum of 85 percent.
- All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85 percent.

³⁴ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

³⁵ Diesel Emission Controls in Construction Projects, available at:

<http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>

³⁶ For EPA's list of verified technology: <http://www3.epa.gov/otag/diesel/verification/verif-list.htm>

³⁷ For CARB's list of verified technology: <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>

- All diesel nonroad construction equipment on site for more than 10 total days must have either (1) engines meeting EPA Tier 4 nonroad emission standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85 percent for engines 50 horse power (hp) and greater and by a minimum of 20 percent for engines less than 50 hp.
- All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend³⁸ approved by the original engine manufacturer with sulfur content of 15 parts per million (ppm) or less.

Repower or Replace Older Construction Equipment Engines

The NEDC recognizes that availability of equipment that meets the EPA's newer standards is limited.³⁹

Due to this limitation, the NEDC proposes actions that can be taken to reduce emissions from existing equipment in the *Best Practices for Clean Diesel Construction* report.⁴⁰ These actions include but are not limited to:

- Repowering equipment (i.e. replacing older engines with newer, cleaner engines and leaving the body of the equipment intact).

Engine repower may be a cost-effective emissions reduction strategy when a vehicle or machine has a long useful life and the cost of the engine does not approach the cost of the entire vehicle or machine. Examples of good potential replacement candidates include marine vessels, locomotives, and large construction machines.⁴¹ Older diesel vehicles or machines can be repowered with newer diesel engines or in some cases with engines that operate on alternative fuels (see section "Use Alternative Fuels for Construction Equipment" for details). The original engine is taken out of service and a new engine with reduced emission characteristics is installed. Significant emission reductions can be achieved, depending on the newer engine and the vehicle or machine's ability to accept a more modern engine and emission control system. It should be noted, however, that newer engines or higher tier engines are not necessarily cleaner engines, so it is important that the Project Applicant check the actual emission standard level of the current (existing) and new engines to ensure the repower product is reducing emissions for PM10.⁴²

- Replacement of older equipment with equipment meeting the latest emission standards.

Engine replacement can include substituting a cleaner highway engine for a nonroad engine. Diesel equipment may also be replaced with other technologies or fuels. Examples include hybrid switcher locomotives, electric cranes, LNG, CNG, LPG or propane yard tractors, forklifts

³⁸ Biodiesel blends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements:

<http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf>

³⁹ <http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf>

⁴⁰ <http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf>

⁴¹ <http://www3.epa.gov/otaq/diesel/technologies/engines.htm>

⁴² Diesel Emissions Reduction Program (DERA): Technologies, Fleets and Projects Information, available at: <http://www2.epa.gov/sites/production/files/2015-09/documents/420p11001.pdf>

or loaders. Replacements using natural gas may require changes to fueling infrastructure.⁴³ Replacements often require some re-engineering work due to differences in size and configuration. Typically there are benefits in fuel efficiency, reliability, warranty, and maintenance costs.⁴⁴

Install Retrofit Devices on Existing Construction Equipment

PM emissions from alternatively-fueled construction equipment can be further reduced by installing retrofit devices on existing and/or new equipment. The most common retrofit technologies are retrofit devices for engine exhaust after-treatment. These devices are installed in the exhaust system to reduce emissions and should not impact engine or vehicle operation.⁴⁵ Below is a table, prepared by the EPA, that summarizes the commonly used retrofit technologies and the typical cost and emission reductions associated with each technology.⁴⁶ It should be noted that actual emissions reductions and costs will depend on specific manufacturers, technologies and applications.

Technology	Typical Emissions Reductions (percent)				Typical Costs (\$)
	PM	NOx	HC	CO	
Diesel Oxidation Catalyst (DOC)	20-40	-	40-70	40-60	Material: \$600-\$4,000 Installation: 1-3 hours
Diesel Particulate Filter (DPF)	85-95	-	85-95	50-90	Material: \$8,000-\$50,000 Installation: 6-8 hours
Partial Diesel Particulate Filter (pDPF)	up to 60	-	40-75	Oct-60	Material: \$4,000-\$6,000 Installation: 6-8 hours
Selective Catalyst Reduction (SCR)	-	up to 75	-	-	\$10,000-\$20,000; Urea \$0.80/gal
Closed Crankcase Ventilation (CCV)	varies	-	-	-	-
Exhaust Gas Recirculation (EGR)	-	25-40	-	-	-
Lean NOx Catalyst (LNC)	-	May-40	-	-	\$6,500-\$10,000

Use Electric and Hybrid Construction Equipment

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*⁴⁷ report also proposes the use of electric and/or hybrid construction equipment as a way to mitigate criteria pollutant emissions, such as particulate matter. When construction equipment is powered by grid electricity rather than fossil fuel, direct emissions from fuel combustion are replaced with indirect emissions associated with the electricity used to power the equipment. Furthermore, when construction equipment is powered by hybrid-electric drives, emissions from fuel combustion are also greatly reduced and criteria air pollutants

⁴³ <http://www3.epa.gov/otaq/diesel/technologies/replacements.htm>

⁴⁴ <http://www3.epa.gov/otaq/diesel/technologies/engines.htm>

⁴⁵ <http://www3.epa.gov/otaq/diesel/technologies/index.htm>

⁴⁶ <http://www3.epa.gov/otaq/diesel/technologies/retrofits.htm>

⁴⁷ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

would be 100% reduced for equipment running on electricity. Electric construction equipment is available commercially from companies such as Peterson Pacific Corporation⁴⁸ and Komptech USA⁴⁹, which specialize in the mechanical processing equipment like grinders and shredders. Construction equipment powered by hybrid-electric drives is also commercially available from companies such as Caterpillar⁵⁰. For example, Caterpillar reports that during an 8-hour shift, its D7E hybrid dozer burns 19.5 percent fewer gallons of fuel than a conventional dozer while achieving a 10.3 percent increase in productivity. The D7E model burns 6.2 gallons per hour compared to a conventional dozer which burns 7.7 gallons per hour.⁵¹ Fuel usage and savings are dependent on the make and model of the construction equipment used. The Project Applicant should calculate project-specific savings and provide manufacturer specifications indicating fuel burned per hour.

Implement a Construction Vehicle Inventory Tracking System

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*⁵² report recommends that the Project Applicant provide a detailed plan that discusses a construction vehicle inventory tracking system to ensure compliances with construction mitigation measures. The system should include strategies such as requiring engine run time meters on equipment, documenting the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment and daily logging of the operating hours of the equipment. Specifically, for each onroad construction vehicle, nonroad construction equipment, or generator, the contractor should submit to the developer's representative a report prior to bringing said equipment on site that includes:⁵³

- Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number.
- The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level.
- The Certification Statement⁵⁴ signed and printed on the contractor's letterhead.

Furthermore, the contractor should submit to the developer's representative a monthly report that, for each onroad construction vehicle, nonroad construction equipment, or generator onsite, includes:⁵⁵

- Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.

⁴⁸ Peterson Electric Grinders Brochure, available at: http://www.petersoncorp.com/wp-content/uploads/peterson_electric_grinders1.pdf

⁴⁹ <https://www.komptech.com/about-komptech/green-efficiency.html>

⁵⁰ http://www.cat.com/en_US/products/new/power-systems/electric-power-generation.html

⁵¹ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

⁵² <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

⁵³ Diesel Emission Controls in Construction Projects, available at:

<http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>

⁵⁴ Diesel Emission Controls in Construction Projects, available at:

<http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf> The NEDC Model Certification Statement can be found in Appendix A.

⁵⁵ Diesel Emission Controls in Construction Projects, available at:

<http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>

- Any problems with the equipment or emission controls.
- Certified copies of fuel deliveries for the time period that identify:
 - o Source of supply
 - o Quantity of fuel
 - o Quality of fuel, including sulfur content (percent by weight).

In addition to those measures, we also recommend that the City require the Applicant to implement the following mitigation measures, called “Enhanced Exhaust Control Practices,”⁵⁶ that are recommended by the Sacramento Metropolitan Air Quality Management District (“SMAQMD”):

1. The project representative shall submit to the lead agency and District a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.
 - The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment.
 - The project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.
 - This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment.
 - The District’s Equipment List Form can be used to submit this information.
 - The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
2. The project representative shall provide a plan for approval by the lead agency and District demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NO_x reduction and 45% particulate reduction compared to the most recent CARB fleet average.
 - This plan shall be submitted in conjunction with the equipment inventory.
 - Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
 - The District’s Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.
3. The project representative shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour.
 - Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to the lead agency and District monthly.

⁵⁶ http://www.airquality.org/ceqa/Ch3EnhancedExhaustControl_10-2013.pdf

- A visual survey of all in-operation equipment shall be made at least weekly.
 - A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.
4. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other District, state or federal rules or regulations.

When combined together, these measures offer a cost-effective way to incorporate lower-emitting equipment into the Project's construction fleet, which subsequently, reduces particulate matter emissions released during Project construction.

Sincerely,



Matt Hagemann, P.G., C.Hg.



Jessie Jaeger

14th & Alice Project

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	198.00	Space	0.00	79,200.00	0
Apartments Mid Rise	262.00	Dwelling Unit	1.40	220,248.00	509
Regional Shopping Center	12.09	1000sqft	0.28	12,090.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	457	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Reflects PG&E recommended 5 year average

Land Use - Reflects proposed land uses.

Trips and VMT - Reflects information provided in Appendix E of the CEQA Analysis. All trip numbers and trip lengths reflect one-way trips.

Architectural Coating -

Table Name	Column Name	Default Value	New Value
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tblVehicleTrips	ST_TR	7.16	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	6.07	0.00
tblVehicleTrips	SU_TR	25.24	0.00
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tblWater	IndoorWaterUseRate	895,536.78	0.00
tblWater	OutdoorWaterUseRate	10,761,745.36	0.00
tblWater	OutdoorWaterUseRate	548,877.38	0.00
tblWoodstoves	NumberCatalytic	1.31	0.00
tblWoodstoves	NumberNoncatalytic	1.31	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0719	0.7090	0.4720	1.1100e-003	0.0284	0.0328	0.0612	5.6700e-003	0.0318	0.0374	0.0000	99.6234	99.6234	0.0143	0.0000	99.9229
2017	1.0835	3.8478	6.6397	0.0143	0.8125	0.1936	1.0061	0.2159	0.1867	0.4026	0.0000	1,120.5172	1,120.5172	0.1041	0.0000	1,122.7031
2018	12.4773	4.0387	7.8419	0.0175	1.0522	0.2222	1.2744	0.2800	0.2142	0.4942	0.0000	1,328.2619	1,328.2619	0.1098	0.0000	1,330.5680
Total	13.6328	8.5954	14.9537	0.0329	1.8931	0.4486	2.3417	0.5016	0.4326	0.9342	0.0000	2,548.4026	2,548.4026	0.2282	0.0000	2,553.1939

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0719	0.7090	0.4720	1.1100e-003	0.0284	0.0328	0.0612	5.6700e-003	0.0318	0.0374	0.0000	99.6234	99.6234	0.0143	0.0000	99.9228
2017	1.0835	3.8478	6.6397	0.0143	0.8125	0.1936	1.0061	0.2159	0.1867	0.4026	0.0000	1,120.5168	1,120.5168	0.1041	0.0000	1,122.7027
2018	12.4773	4.0387	7.8419	0.0175	1.0522	0.2222	1.2744	0.2800	0.2142	0.4942	0.0000	1,328.2615	1,328.2615	0.1098	0.0000	1,330.5675
Total	13.6328	8.5954	14.9537	0.0329	1.8931	0.4486	2.3416	0.5016	0.4326	0.9342	0.0000	2,548.4016	2,548.4016	0.2282	0.0000	2,553.1929

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4635	0.0227	1.9570	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	3.1815	3.1815	3.1300e-003	0.0000	3.2472
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.4635	0.0227	1.9570	1.0000e-004	0.0000	0.0107	0.0107	0.0000	0.0107	0.0107	0.0000	3.1815	3.1815	3.1300e-003	0.0000	3.2472

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4635	0.0227	1.9570	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	3.1815	3.1815	3.1300e-003	0.0000	3.2472
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.4635	0.0227	1.9570	1.0000e-004	0.0000	0.0107	0.0107	0.0000	0.0107	0.0107	0.0000	3.1815	3.1815	3.1300e-003	0.0000	3.2472

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Mobilization	Site Preparation	11/1/2016	11/18/2016	5	14	
2	All Phases - Equipment Only	Building Construction	11/1/2016	10/30/2018	5	521	
3	Abatement & Demo Phase	Demolition	11/18/2016	12/19/2016	5	22	

4	Mass Exc	Trenching	12/19/2016	1/4/2017	5	13
5	Grade Site	Grading	1/2/2017	1/16/2017	5	11
6	Sub-slab Utilities	Trenching	1/17/2017	2/14/2017	5	21
7	F/R/P SOG	Building Construction	1/26/2017	2/23/2017	5	21
8	1st Floor Deck Shoring	Building Construction	2/15/2017	3/15/2017	5	21
9	F/R/P 1st Floor Deck	Building Construction	2/24/2017	3/24/2017	5	21
10	F/R/P 1st Floor Columns & Walls	Building Construction	3/16/2017	4/13/2017	5	21
11	Mezz Floor Deck Shoring	Building Construction	4/5/2017	5/3/2017	5	21
12	F/R/P Mezz Floor Deck	Building Construction	4/14/2017	5/12/2017	5	21
13	F/R/P Mezz Floor Columns & Walls	Building Construction	5/4/2017	6/1/2017	5	21
14	Podium Deck Shoring	Building Construction	5/24/2017	6/21/2017	5	21
15	F/R/P Podium Deck	Building Construction	6/13/2017	7/12/2017	5	22
16	2nd Floor Framing	Building Construction	7/3/2017	8/15/2017	5	32
17	3rd Floor Framing	Building Construction	8/15/2017	9/26/2017	5	31
18	L1 Retail Remove Re-shores	Building Construction	8/15/2017	8/22/2017	5	6
19	L2 Rough In	Building Construction	8/15/2017	12/26/2017	5	96
20	L1 Retail Storefronts	Building Construction	9/4/2017	10/2/2017	5	21
21	L1 Retail Build out	Building Construction	9/4/2017	1/15/2018	5	96
22	L1 Parking Remove Re-shores	Building Construction	9/4/2017	9/11/2017	5	6
23	L1 Parking Build out	Paving	9/13/2017	12/1/2017	5	58
24	4th Floor Framing	Building Construction	9/26/2017	11/7/2017	5	31
25	L3 Rough In	Building Construction	9/26/2017	2/7/2018	5	97
26	Mezz Parking Remove Re-shores	Building Construction	10/23/2017	10/30/2017	5	6
27	Mezz Parking Build out	Paving	11/1/2017	2/7/2018	5	71
28	5th Floor Framing	Building Construction	11/7/2017	12/21/2017	5	33
29	L4 Rough In	Building Construction	11/7/2017	3/21/2018	5	97
30	L2 Finishes	Architectural Coating	12/4/2017	4/13/2018	5	95
31	6th Floor Framing	Building Construction	12/21/2017	2/6/2018	5	34

32	L5 Rough In	Building Construction	12/21/2017	5/2/2018	5	95
33	L3 Finishes	Architectural Coating	1/18/2018	5/25/2018	5	92
34	Roof Framing	Building Construction	2/6/2018	3/20/2018	5	31
35	L6 Rough In	Building Construction	2/6/2018	6/13/2018	5	92
36	L4 Finishes	Architectural Coating	3/1/2018	7/9/2018	5	93
37	Roofing	Building Construction	3/7/2018	4/4/2018	5	21
38	Exterior Finishes	Architectural Coating	3/27/2018	10/19/2018	5	149
39	L5 Finishes	Architectural Coating	4/12/2018	8/20/2018	5	93
40	L6 Finishes	Architectural Coating	5/24/2018	10/1/2018	5	93
41	Site Improvements	Paving	6/13/2018	10/19/2018	5	93
42	Commissioning Phase	Building Construction	8/2/2018	8/31/2018	5	22
43	Testing Phase	Building Construction	9/11/2018	10/10/2018	5	22
44	Final Inspection	Building Construction	10/19/2018	10/30/2018	5	8

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 446,002; Residential Outdoor: 148,667; Non-Residential Indoor: 136,935; Non-Residential Outdoor: 45,645 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Mobilization	Graders	0	8.00	174	0.41
Site Mobilization	Rubber Tired Dozers	0	7.00	255	0.40
Site Mobilization	Tractors/Loaders/Backhoes	0	8.00	97	0.37
All Phases - Equipment Only	Cranes	0	6.00	226	0.29
All Phases - Equipment Only	Forklifts	2	4.00	200	0.20
All Phases - Equipment Only	Generator Sets	3	6.00	100	0.74

All Phases - Equipment Only	Tractors/Loaders/Backhoes	0	6.00	97	0.37
All Phases - Equipment Only	Welders	0	8.00	46	0.45
Abatement & Demo Phase	Concrete/Industrial Saws	0	8.00	81	0.73
Abatement & Demo Phase	Excavators	1	8.00	300	0.38
Abatement & Demo Phase	Rubber Tired Dozers	0	8.00	255	0.40
Abatement & Demo Phase	Tractors/Loaders/Backhoes	1	8.00	300	0.36
Mass Exc	Excavators	1	8.00	300	0.38
Mass Exc	Tractors/Loaders/Backhoes	1	8.00	300	0.36
Grade Site	Excavators	1	8.00	300	0.38
Grade Site	Graders	1	2.00	174	0.41
Grade Site	Rubber Tired Dozers	0	6.00	255	0.40
Grade Site	Tractors/Loaders/Backhoes	1	8.00	300	0.36
Sub-slab Utilities	Excavators	1	8.00	300	0.38
Sub-slab Utilities	Tractors/Loaders/Backhoes	1	8.00	300	0.36
F/R/P SOG	Cranes	0	6.00	226	0.29
F/R/P SOG	Forklifts	0	6.00	89	0.20
F/R/P SOG	Generator Sets	0	8.00	84	0.74
F/R/P SOG	Tractors/Loaders/Backhoes	0	6.00	97	0.37
F/R/P SOG	Welders	0	8.00	46	0.45
1st Floor Deck Shoring	Bore/Drill Rigs	1	8.00	205	0.50
1st Floor Deck Shoring	Cranes	0	6.00	226	0.29
1st Floor Deck Shoring	Forklifts	0	6.00	89	0.20
1st Floor Deck Shoring	Generator Sets	0	8.00	84	0.74
1st Floor Deck Shoring	Tractors/Loaders/Backhoes	0	6.00	97	0.37
1st Floor Deck Shoring	Welders	0	8.00	46	0.45
F/R/P 1st Floor Deck	Cranes	0	6.00	226	0.29
F/R/P 1st Floor Deck	Forklifts	0	6.00	89	0.20
F/R/P 1st Floor Deck	Generator Sets	0	8.00	84	0.74

F/R/P 1st Floor Deck	Tractors/Loaders/Backhoes	0	6.00	97	0.37
F/R/P 1st Floor Deck	Welders	0	8.00	46	0.45
F/R/P 1st Floor Columns & Walls	Cranes	0	6.00	226	0.29
F/R/P 1st Floor Columns & Walls	Forklifts	0	6.00	89	0.20
F/R/P 1st Floor Columns & Walls	Generator Sets	0	8.00	84	0.74
F/R/P 1st Floor Columns & Walls	Tractors/Loaders/Backhoes	0	6.00	97	0.37
F/R/P 1st Floor Columns & Walls	Welders	0	8.00	46	0.45
Mezz Floor Deck Shoring	Bore/Drill Rigs	1	8.00	205	0.50
Mezz Floor Deck Shoring	Cranes	0	6.00	226	0.29
Mezz Floor Deck Shoring	Forklifts	0	6.00	89	0.20
Mezz Floor Deck Shoring	Generator Sets	0	8.00	84	0.74
Mezz Floor Deck Shoring	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Mezz Floor Deck Shoring	Welders	0	8.00	46	0.45
F/R/P Mezz Floor Deck	Cranes	0	6.00	226	0.29
F/R/P Mezz Floor Deck	Forklifts	0	6.00	89	0.20
F/R/P Mezz Floor Deck	Generator Sets	0	8.00	84	0.74
F/R/P Mezz Floor Deck	Tractors/Loaders/Backhoes	0	6.00	97	0.37
F/R/P Mezz Floor Deck	Welders	0	8.00	46	0.45
F/R/P Mezz Floor Columns & Walls	Cranes	0	6.00	226	0.29
F/R/P Mezz Floor Columns & Walls	Forklifts	0	6.00	89	0.20
F/R/P Mezz Floor Columns & Walls	Generator Sets	0	8.00	84	0.74
F/R/P Mezz Floor Columns & Walls	Tractors/Loaders/Backhoes	0	6.00	97	0.37
F/R/P Mezz Floor Columns & Walls	Welders	0	8.00	46	0.45
Podium Deck Shoring	Bore/Drill Rigs	1	8.00	205	0.50
Podium Deck Shoring	Cranes	0	6.00	226	0.29
Podium Deck Shoring	Forklifts	0	6.00	89	0.20
Podium Deck Shoring	Generator Sets	0	8.00	84	0.74
Podium Deck Shoring	Tractors/Loaders/Backhoes	0	6.00	97	0.37

Podium Deck Shoring	Welders	0	8.00	46	0.45
F/R/P Podium Deck	Cranes	0	6.00	226	0.29
F/R/P Podium Deck	Forklifts	0	6.00	89	0.20
F/R/P Podium Deck	Generator Sets	0	8.00	84	0.74
F/R/P Podium Deck	Tractors/Loaders/Backhoes	0	6.00	97	0.37
F/R/P Podium Deck	Welders	0	8.00	46	0.45
2nd Floor Framing	Cranes	0	6.00	226	0.29
2nd Floor Framing	Forklifts	0	6.00	89	0.20
2nd Floor Framing	Generator Sets	0	8.00	84	0.74
2nd Floor Framing	Tractors/Loaders/Backhoes	0	6.00	97	0.37
2nd Floor Framing	Welders	0	8.00	46	0.45
3rd Floor Framing	Cranes	0	6.00	226	0.29
3rd Floor Framing	Forklifts	0	6.00	89	0.20
3rd Floor Framing	Generator Sets	0	8.00	84	0.74
3rd Floor Framing	Tractors/Loaders/Backhoes	0	6.00	97	0.37
3rd Floor Framing	Welders	0	8.00	46	0.45
L1 Retail Remove Re-shores	Cranes	0	6.00	226	0.29
L1 Retail Remove Re-shores	Forklifts	0	6.00	89	0.20
L1 Retail Remove Re-shores	Generator Sets	0	8.00	84	0.74
L1 Retail Remove Re-shores	Tractors/Loaders/Backhoes	0	6.00	97	0.37
L1 Retail Remove Re-shores	Welders	0	8.00	46	0.45
L2 Rough In	Cranes	0	6.00	226	0.29
L2 Rough In	Forklifts	0	6.00	89	0.20
L2 Rough In	Generator Sets	0	8.00	84	0.74
L2 Rough In	Tractors/Loaders/Backhoes	0	6.00	97	0.37
L2 Rough In	Welders	0	8.00	46	0.45
L1 Retail Storefronts	Cranes	0	6.00	226	0.29
L1 Retail Storefronts	Forklifts	2	8.00	100	0.31

L1 Retail Storefronts	Forklifts	0	6.00	89	0.20
L1 Retail Storefronts	Generator Sets	0	8.00	84	0.74
L1 Retail Storefronts	Tractors/Loaders/Backhoes	0	6.00	97	0.37
L1 Retail Storefronts	Welders	0	8.00	46	0.45
L1 Retail Build out	Cranes	0	6.00	226	0.29
L1 Retail Build out	Forklifts	0	6.00	89	0.20
L1 Retail Build out	Generator Sets	0	8.00	84	0.74
L1 Retail Build out	Tractors/Loaders/Backhoes	0	6.00	97	0.37
L1 Retail Build out	Welders	0	8.00	46	0.45
L1 Parking Remove Re-shores	Cranes	0	6.00	226	0.29
L1 Parking Remove Re-shores	Forklifts	0	6.00	89	0.20
L1 Parking Remove Re-shores	Generator Sets	0	8.00	84	0.74
L1 Parking Remove Re-shores	Tractors/Loaders/Backhoes	0	6.00	97	0.37
L1 Parking Remove Re-shores	Welders	0	8.00	46	0.45
L1 Parking Build out	Cement and Mortar Mixers	1	6.00	9	0.56
L1 Parking Build out	Pavers	1	6.00	125	0.42
L1 Parking Build out	Paving Equipment	1	8.00	130	0.36
L1 Parking Build out	Rollers	1	7.00	80	0.38
L1 Parking Build out	Tractors/Loaders/Backhoes	1	8.00	97	0.37
4th Floor Framing	Cranes	0	6.00	226	0.29
4th Floor Framing	Forklifts	0	6.00	89	0.20
4th Floor Framing	Generator Sets	0	8.00	84	0.74
4th Floor Framing	Tractors/Loaders/Backhoes	0	6.00	97	0.37
4th Floor Framing	Welders	0	8.00	46	0.45
L3 Rough In	Cranes	0	6.00	226	0.29
L3 Rough In	Forklifts	0	6.00	89	0.20
L3 Rough In	Generator Sets	0	8.00	84	0.74
L3 Rough In	Tractors/Loaders/Backhoes	0	6.00	97	0.37

L3 Rough In	Welders	0	8.00	46	0.45
Mezz Parking Remove Re-shores	Cranes	0	6.00	226	0.29
Mezz Parking Remove Re-shores	Forklifts	0	6.00	89	0.20
Mezz Parking Remove Re-shores	Generator Sets	0	8.00	84	0.74
Mezz Parking Remove Re-shores	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Mezz Parking Remove Re-shores	Welders	0	8.00	46	0.45
Mezz Parking Build out	Cement and Mortar Mixers	1	6.00	9	0.56
Mezz Parking Build out	Pavers	1	6.00	125	0.42
Mezz Parking Build out	Paving Equipment	1	8.00	130	0.36
Mezz Parking Build out	Rollers	1	7.00	80	0.38
Mezz Parking Build out	Tractors/Loaders/Backhoes	1	8.00	97	0.37
5th Floor Framing	Cranes	0	6.00	226	0.29
5th Floor Framing	Forklifts	0	6.00	89	0.20
5th Floor Framing	Generator Sets	0	8.00	84	0.74
5th Floor Framing	Tractors/Loaders/Backhoes	0	6.00	97	0.37
5th Floor Framing	Welders	0	8.00	46	0.45
L4 Rough In	Cranes	0	6.00	226	0.29
L4 Rough In	Forklifts	0	6.00	89	0.20
L4 Rough In	Generator Sets	0	8.00	84	0.74
L4 Rough In	Tractors/Loaders/Backhoes	0	6.00	97	0.37
L4 Rough In	Welders	0	8.00	46	0.45
L2 Finishes	Air Compressors	1	6.00	78	0.48
6th Floor Framing	Cranes	0	6.00	226	0.29
6th Floor Framing	Forklifts	0	6.00	89	0.20
6th Floor Framing	Generator Sets	0	8.00	84	0.74
6th Floor Framing	Tractors/Loaders/Backhoes	0	6.00	97	0.37
6th Floor Framing	Welders	0	8.00	46	0.45
L5 Rough In	Cranes	0	6.00	226	0.29

L5 Rough In	Forklifts	0	6.00	89	0.20
L5 Rough In	Generator Sets	0	8.00	84	0.74
L5 Rough In	Tractors/Loaders/Backhoes	0	6.00	97	0.37
L5 Rough In	Welders	0	8.00	46	0.45
L3 Finishes	Air Compressors	1	6.00	78	0.48
Roof Framing	Cranes	0	6.00	226	0.29
Roof Framing	Forklifts	0	6.00	89	0.20
Roof Framing	Generator Sets	0	8.00	84	0.74
Roof Framing	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Roof Framing	Welders	0	8.00	46	0.45
L6 Rough In	Cranes	0	6.00	226	0.29
L6 Rough In	Forklifts	0	6.00	89	0.20
L6 Rough In	Generator Sets	0	8.00	84	0.74
L6 Rough In	Tractors/Loaders/Backhoes	0	6.00	97	0.37
L6 Rough In	Welders	0	8.00	46	0.45
L4 Finishes	Air Compressors	1	6.00	78	0.48
Roofing	Cranes	0	6.00	226	0.29
Roofing	Forklifts	2	8.00	100	0.31
Roofing	Forklifts	0	6.00	89	0.20
Roofing	Generator Sets	0	8.00	84	0.74
Roofing	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Roofing	Welders	0	8.00	46	0.45
Exterior Finishes	Air Compressors	1	6.00	78	0.48
Exterior Finishes	Cranes	0	6.00	226	0.29
Exterior Finishes	Forklifts	2	8.00	100	0.31
Exterior Finishes	Forklifts	0	6.00	89	0.20
Exterior Finishes	Generator Sets	0	8.00	84	0.74
Exterior Finishes	Tractors/Loaders/Backhoes	0	6.00	97	0.37

Exterior Finishes	Welders	0	8.00	46	0.45
L5 Finishes	Air Compressors	1	6.00	78	0.48
L6 Finishes	Air Compressors	1	6.00	78	0.48
Site Improvements	Cement and Mortar Mixers	1	6.00	9	0.56
Site Improvements	Pavers	1	6.00	125	0.42
Site Improvements	Paving Equipment	1	8.00	130	0.36
Site Improvements	Rollers	1	7.00	80	0.38
Site Improvements	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Commissioning Phase	Cranes	0	6.00	226	0.29
Commissioning Phase	Forklifts	0	6.00	89	0.20
Commissioning Phase	Generator Sets	0	8.00	84	0.74
Commissioning Phase	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Commissioning Phase	Welders	0	8.00	46	0.45
Testing Phase	Cranes	0	6.00	226	0.29
Testing Phase	Forklifts	0	6.00	89	0.20
Testing Phase	Generator Sets	0	8.00	84	0.74
Testing Phase	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Testing Phase	Welders	0	8.00	46	0.45
Final Inspection	Cranes	0	6.00	226	0.29
Final Inspection	Forklifts	0	6.00	89	0.20
Final Inspection	Generator Sets	0	8.00	84	0.74
Final Inspection	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Final Inspection	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Mobilization	0	0.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

All Phases - Equipment Only	5	0.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Abatement & Demo Phase	2	30.00	0.00	156.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mass Exc	2	20.00	0.00	812.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grade Site	3	20.00	0.00	22.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Sub-slab Utilities	2	160.00	0.00	42.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
F/R/P SOG	0	160.00	0.00	84.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
1st Floor Deck Shoring	1	160.00	0.00	42.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
F/R/P 1st Floor Deck	0	160.00	0.00	84.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
F/R/P 1st Floor Columns & Walls	0	160.00	0.00	42.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mezz Floor Deck Shoring	1	160.00	0.00	42.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
F/R/P Mezz Floor Deck	0	160.00	0.00	84.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
F/R/P Mezz Floor Columns & Walls	0	160.00	0.00	42.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Podium Deck Shoring	1	160.00	0.00	42.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
F/R/P Podium Deck	0	160.00	0.00	88.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
2nd Floor Framing	0	240.00	0.00	64.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
3rd Floor Framing	0	240.00	0.00	62.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L1 Retail Remove Re- shores	0	160.00	0.00	12.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L2 Rough In	0	240.00	0.00	192.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L1 Retail Storefronts	2	200.00	0.00	42.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L1 Retail Build out	0	240.00	0.00	192.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L1 Parking Remove Re-shores	0	160.00	0.00	12.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L1 Parking Build out	5	240.00	0.00	116.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
4th Floor Framing	0	240.00	0.00	62.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L3 Rough In	0	240.00	0.00	194.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mezz Parking Remove Re-shores	0	160.00	0.00	12.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mezz Parking Build out	5	240.00	0.00	142.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
5th Floor Framing	0	240.00	0.00	62.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L4 Rough In	0	240.00	0.00	194.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

L2 Finishes	1	240.00	0.00	190.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
6th Floor Framing	0	240.00	0.00	66.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L5 Rough In	0	240.00	0.00	190.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L3 Finishes	1	240.00	0.00	184.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Roof Framing	0	240.00	0.00	62.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L6 Rough In	0	240.00	0.00	184.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L4 Finishes	1	240.00	0.00	186.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Roofing	2	20.00	0.00	42.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Exterior Finishes	3	200.00	0.00	298.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L5 Finishes	1	240.00	0.00	186.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
L6 Finishes	1	240.00	0.00	186.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Improvements	5	20.00	0.00	186.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Commissioning Phase	0	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Testing Phase	0	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Final Inspection	0	0.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Mobilization - 2016

Unmitigated Construction On-Site

[illegible]

Unmitigated Construction Off-Site

[illegible]

3.2 Site Mobilization - 2016

Mitigated Construction On-Site

[illegible]

Mitigated Construction Off-Site

[illegible]

3.3 All Phases - Equipment Only - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0460	0.3835	0.2587	4.6000e-004		0.0243	0.0243		0.0240	0.0240	0.0000	40.4526	40.4526	5.2000e-003	0.0000	40.5619
Total	0.0460	0.3835	0.2587	4.6000e-004		0.0243	0.0243		0.0240	0.0240	0.0000	40.4526	40.4526	5.2000e-003	0.0000	40.5619

Unmitigated Construction Off-Site

[illegible]

3.3 All Phases - Equipment Only - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0460	0.3835	0.2587	4.6000e-004		0.0243	0.0243		0.0240	0.0240	0.0000	40.4526	40.4526	5.2000e-003	0.0000	40.5618
Total	0.0460	0.3835	0.2587	4.6000e-004		0.0243	0.0243		0.0240	0.0240	0.0000	40.4526	40.4526	5.2000e-003	0.0000	40.5618

Mitigated Construction Off-Site

[illegible]

3.3 All Phases - Equipment Only - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2440	2.0820	1.5059	2.7400e-003		0.1277	0.1277		0.1259	0.1259	0.0000	238.3818	238.3818	0.0287	0.0000	238.9838
Total	0.2440	2.0820	1.5059	2.7400e-003		0.1277	0.1277		0.1259	0.1259	0.0000	238.3818	238.3818	0.0287	0.0000	238.9838

Unmitigated Construction Off-Site

[illegible]

3.3 All Phases - Equipment Only - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2440	2.0820	1.5059	2.7400e-003		0.1277	0.1277		0.1258	0.1258	0.0000	238.3815	238.3815	0.0287	0.0000	238.9835
Total	0.2440	2.0820	1.5059	2.7400e-003		0.1277	0.1277		0.1258	0.1258	0.0000	238.3815	238.3815	0.0287	0.0000	238.9835

Mitigated Construction Off-Site

[illegible]

3.3 All Phases - Equipment Only - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1794	1.5734	1.2295	2.2900e-003		0.0920	0.0920		0.0907	0.0907	0.0000	198.4093	198.4093	0.0225	0.0000	198.8814
Total	0.1794	1.5734	1.2295	2.2900e-003		0.0920	0.0920		0.0907	0.0907	0.0000	198.4093	198.4093	0.0225	0.0000	198.8814

Unmitigated Construction Off-Site

[illegible]

3.3 All Phases - Equipment Only - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1794	1.5734	1.2295	2.2900e-003		0.0920	0.0920		0.0907	0.0907	0.0000	198.4091	198.4091	0.0225	0.0000	198.8812
Total	0.1794	1.5734	1.2295	2.2900e-003		0.0920	0.0920		0.0907	0.0907	0.0000	198.4091	198.4091	0.0225	0.0000	198.8812

Mitigated Construction Off-Site

[illegible]

3.4 Abatement & Demo Phase - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0167	0.0000	0.0167	2.5300e-003	0.0000	2.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0107	0.1416	0.0647	2.1000e-004		4.7500e-003	4.7500e-003		4.3700e-003	4.3700e-003	0.0000	19.7222	19.7222	5.9500e-003	0.0000	19.8472
Total	0.0107	0.1416	0.0647	2.1000e-004	0.0167	4.7500e-003	0.0214	2.5300e-003	4.3700e-003	6.9000e-003	0.0000	19.7222	19.7222	5.9500e-003	0.0000	19.8472

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7400e-003	0.0234	0.0191	6.0000e-005	1.3200e-003	3.1000e-004	1.6200e-003	3.6000e-004	2.8000e-004	6.4000e-004	0.0000	5.3825	5.3825	4.0000e-005	0.0000	5.3833
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2600e-003	1.8700e-003	0.0180	4.0000e-005	3.0000e-003	3.0000e-005	3.0200e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.7246	2.7246	1.5000e-004	0.0000	2.7278
Total	3.0000e-003	0.0253	0.0372	1.0000e-004	4.3200e-003	3.4000e-004	4.6400e-003	1.1600e-003	3.0000e-004	1.4600e-003	0.0000	8.1071	8.1071	1.9000e-004	0.0000	8.1112

3.4 Abatement & Demo Phase - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0167	0.0000	0.0167	2.5300e-003	0.0000	2.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0107	0.1416	0.0647	2.1000e-004		4.7500e-003	4.7500e-003		4.3700e-003	4.3700e-003	0.0000	19.7222	19.7222	5.9500e-003	0.0000	19.8471
Total	0.0107	0.1416	0.0647	2.1000e-004	0.0167	4.7500e-003	0.0214	2.5300e-003	4.3700e-003	6.9000e-003	0.0000	19.7222	19.7222	5.9500e-003	0.0000	19.8471

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7400e-003	0.0234	0.0191	6.0000e-005	1.3200e-003	3.1000e-004	1.6200e-003	3.6000e-004	2.8000e-004	6.4000e-004	0.0000	5.3825	5.3825	4.0000e-005	0.0000	5.3833
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2600e-003	1.8700e-003	0.0180	4.0000e-005	3.0000e-003	3.0000e-005	3.0200e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.7246	2.7246	1.5000e-004	0.0000	2.7278
Total	3.0000e-003	0.0253	0.0372	1.0000e-004	4.3200e-003	3.4000e-004	4.6400e-003	1.1600e-003	3.0000e-004	1.4600e-003	0.0000	8.1071	8.1071	1.9000e-004	0.0000	8.1112

3.5 Mass Exc - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.8500e-003	0.0644	0.0294	1.0000e-004		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	8.9647	8.9647	2.7000e-003	0.0000	9.0214
Total	4.8500e-003	0.0644	0.0294	1.0000e-004		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	8.9647	8.9647	2.7000e-003	0.0000	9.0214

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.9700e-003	0.0937	0.0766	2.4000e-004	6.4600e-003	1.2300e-003	7.6800e-003	1.7400e-003	1.1300e-003	2.8700e-003	0.0000	21.5512	21.5512	1.6000e-004	0.0000	21.5546
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	5.7000e-004	5.4600e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8256	0.8256	5.0000e-005	0.0000	0.8266
Total	7.3500e-003	0.0943	0.0820	2.5000e-004	7.3700e-003	1.2400e-003	8.6000e-003	1.9800e-003	1.1400e-003	3.1200e-003	0.0000	22.3769	22.3769	2.1000e-004	0.0000	22.3812

3.5 Mass Exc - 2016**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.8500e-003	0.0644	0.0294	1.0000e-004		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	8.9646	8.9646	2.7000e-003	0.0000	9.0214
Total	4.8500e-003	0.0644	0.0294	1.0000e-004		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	8.9646	8.9646	2.7000e-003	0.0000	9.0214

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.9700e-003	0.0937	0.0766	2.4000e-004	6.4600e-003	1.2300e-003	7.6800e-003	1.7400e-003	1.1300e-003	2.8700e-003	0.0000	21.5512	21.5512	1.6000e-004	0.0000	21.5546
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	5.7000e-004	5.4600e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8256	0.8256	5.0000e-005	0.0000	0.8266
Total	7.3500e-003	0.0943	0.0820	2.5000e-004	7.3700e-003	1.2400e-003	8.6000e-003	1.9800e-003	1.1400e-003	3.1200e-003	0.0000	22.3769	22.3769	2.1000e-004	0.0000	22.3812

3.5 Mass Exc - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3800e-003	0.0175	8.5800e-003	3.0000e-005		5.9000e-004	5.9000e-004		5.5000e-004	5.5000e-004	0.0000	2.6478	2.6478	8.1000e-004	0.0000	2.6648
Total	1.3800e-003	0.0175	8.5800e-003	3.0000e-005		5.9000e-004	5.9000e-004		5.5000e-004	5.5000e-004	0.0000	2.6478	2.6478	8.1000e-004	0.0000	2.6648

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-003	0.0252	0.0223	7.0000e-005	5.5300e-003	3.2000e-004	5.8600e-003	1.4000e-003	3.0000e-004	1.7000e-003	0.0000	6.3546	6.3546	5.0000e-005	0.0000	6.3556
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	1.5000e-004	1.4600e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2383	0.2383	1.0000e-005	0.0000	0.2385
Total	2.1000e-003	0.0254	0.0238	7.0000e-005	5.8000e-003	3.2000e-004	6.1300e-003	1.4700e-003	3.0000e-004	1.7700e-003	0.0000	6.5928	6.5928	6.0000e-005	0.0000	6.5941

3.5 Mass Exc - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3800e-003	0.0175	8.5800e-003	3.0000e-005		5.9000e-004	5.9000e-004		5.5000e-004	5.5000e-004	0.0000	2.6478	2.6478	8.1000e-004	0.0000	2.6648
Total	1.3800e-003	0.0175	8.5800e-003	3.0000e-005		5.9000e-004	5.9000e-004		5.5000e-004	5.5000e-004	0.0000	2.6478	2.6478	8.1000e-004	0.0000	2.6648

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-003	0.0252	0.0223	7.0000e-005	5.5300e-003	3.2000e-004	5.8600e-003	1.4000e-003	3.0000e-004	1.7000e-003	0.0000	6.3546	6.3546	5.0000e-005	0.0000	6.3556
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	1.5000e-004	1.4600e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2383	0.2383	1.0000e-005	0.0000	0.2385
Total	2.1000e-003	0.0254	0.0238	7.0000e-005	5.8000e-003	3.2000e-004	6.1300e-003	1.4700e-003	3.0000e-004	1.7700e-003	0.0000	6.5928	6.5928	6.0000e-005	0.0000	6.5941

3.6 Grade Site - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1100e-003	0.0000	1.1100e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3700e-003	0.0775	0.0381	1.1000e-004		2.9200e-003	2.9200e-003		2.6900e-003	2.6900e-003	0.0000	10.5039	10.5039	3.2200e-003	0.0000	10.5715
Total	6.3700e-003	0.0775	0.0381	1.1000e-004	1.1100e-003	2.9200e-003	4.0300e-003	1.4000e-004	2.6900e-003	2.8300e-003	0.0000	10.5039	10.5039	3.2200e-003	0.0000	10.5715

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	2.9600e-003	2.6200e-003	1.0000e-005	1.9000e-004	4.0000e-005	2.2000e-004	5.0000e-005	4.0000e-005	9.0000e-005	0.0000	0.7461	0.7461	1.0000e-005	0.0000	0.7462
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	5.6000e-004	5.3400e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8736	0.8736	5.0000e-005	0.0000	0.8746
Total	6.1000e-004	3.5200e-003	7.9600e-003	2.0000e-005	1.1900e-003	5.0000e-005	1.2300e-003	3.2000e-004	5.0000e-005	3.6000e-004	0.0000	1.6197	1.6197	6.0000e-005	0.0000	1.6208

3.6 Grade Site - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1100e-003	0.0000	1.1100e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3700e-003	0.0775	0.0381	1.1000e-004		2.9200e-003	2.9200e-003		2.6900e-003	2.6900e-003	0.0000	10.5039	10.5039	3.2200e-003	0.0000	10.5715
Total	6.3700e-003	0.0775	0.0381	1.1000e-004	1.1100e-003	2.9200e-003	4.0300e-003	1.4000e-004	2.6900e-003	2.8300e-003	0.0000	10.5039	10.5039	3.2200e-003	0.0000	10.5715

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	2.9600e-003	2.6200e-003	1.0000e-005	1.9000e-004	4.0000e-005	2.2000e-004	5.0000e-005	4.0000e-005	9.0000e-005	0.0000	0.7461	0.7461	1.0000e-005	0.0000	0.7462
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	5.6000e-004	5.3400e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8736	0.8736	5.0000e-005	0.0000	0.8746
Total	6.1000e-004	3.5200e-003	7.9600e-003	2.0000e-005	1.1900e-003	5.0000e-005	1.2300e-003	3.2000e-004	5.0000e-005	3.6000e-004	0.0000	1.6197	1.6197	6.0000e-005	0.0000	1.6208

3.7 Sub-slab Utilities - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.6600e-003	0.1227	0.0601	2.0000e-004		4.1500e-003	4.1500e-003		3.8200e-003	3.8200e-003	0.0000	18.5345	18.5345	5.6800e-003	0.0000	18.6538
Total	9.6600e-003	0.1227	0.0601	2.0000e-004		4.1500e-003	4.1500e-003		3.8200e-003	3.8200e-003	0.0000	18.5345	18.5345	5.6800e-003	0.0000	18.6538

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.7 Sub-slab Utilities - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.6600e-003	0.1227	0.0601	2.0000e-004		4.1500e-003	4.1500e-003		3.8200e-003	3.8200e-003	0.0000	18.5345	18.5345	5.6800e-003	0.0000	18.6538
Total	9.6600e-003	0.1227	0.0601	2.0000e-004		4.1500e-003	4.1500e-003		3.8200e-003	3.8200e-003	0.0000	18.5345	18.5345	5.6800e-003	0.0000	18.6538

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.8 F/R/P SOG - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-004	0.0113	0.0100	3.0000e-005	7.1000e-004	1.5000e-004	8.5000e-004	1.9000e-004	1.3000e-004	3.3000e-004	0.0000	2.8486	2.8486	2.0000e-005	0.0000	2.8490
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.5900e-003	0.0198	0.0916	2.1000e-004	0.0160	2.7000e-004	0.0162	4.2500e-003	2.4000e-004	4.5000e-003	0.0000	16.1910	16.1910	7.4000e-004	0.0000	16.2064

3.8 F/R/P SOG - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-004	0.0113	0.0100	3.0000e-005	7.1000e-004	1.5000e-004	8.5000e-004	1.9000e-004	1.3000e-004	3.3000e-004	0.0000	2.8486	2.8486	2.0000e-005	0.0000	2.8490
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.5900e-003	0.0198	0.0916	2.1000e-004	0.0160	2.7000e-004	0.0162	4.2500e-003	2.4000e-004	4.5000e-003	0.0000	16.1910	16.1910	7.4000e-004	0.0000	16.2064

3.9 1st Floor Deck Shoring - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638
Total	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.9 1st Floor Deck Shoring - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638
Total	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.10 F/R/P 1st Floor Deck - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-004	0.0113	0.0100	3.0000e-005	7.1000e-004	1.5000e-004	8.5000e-004	1.9000e-004	1.3000e-004	3.3000e-004	0.0000	2.8486	2.8486	2.0000e-005	0.0000	2.8490
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.5900e-003	0.0198	0.0916	2.1000e-004	0.0160	2.7000e-004	0.0162	4.2500e-003	2.4000e-004	4.5000e-003	0.0000	16.1910	16.1910	7.4000e-004	0.0000	16.2064

3.10 F/R/P 1st Floor Deck - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-004	0.0113	0.0100	3.0000e-005	7.1000e-004	1.5000e-004	8.5000e-004	1.9000e-004	1.3000e-004	3.3000e-004	0.0000	2.8486	2.8486	2.0000e-005	0.0000	2.8490
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.5900e-003	0.0198	0.0916	2.1000e-004	0.0160	2.7000e-004	0.0162	4.2500e-003	2.4000e-004	4.5000e-003	0.0000	16.1910	16.1910	7.4000e-004	0.0000	16.2064

3.11 F/R/P 1st Floor Columns & Walls - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.11 F/R/P 1st Floor Columns & Walls - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.12 Mezz Floor Deck Shoring - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638
Total	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.12 Mezz Floor Deck Shoring - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638
Total	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.13 F/R/P Mezz Floor Deck - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-004	0.0113	0.0100	3.0000e-005	7.1000e-004	1.5000e-004	8.5000e-004	1.9000e-004	1.3000e-004	3.3000e-004	0.0000	2.8486	2.8486	2.0000e-005	0.0000	2.8490
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.5900e-003	0.0198	0.0916	2.1000e-004	0.0160	2.7000e-004	0.0162	4.2500e-003	2.4000e-004	4.5000e-003	0.0000	16.1910	16.1910	7.4000e-004	0.0000	16.2064

3.13 F/R/P Mezz Floor Deck - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-004	0.0113	0.0100	3.0000e-005	7.1000e-004	1.5000e-004	8.5000e-004	1.9000e-004	1.3000e-004	3.3000e-004	0.0000	2.8486	2.8486	2.0000e-005	0.0000	2.8490
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.5900e-003	0.0198	0.0916	2.1000e-004	0.0160	2.7000e-004	0.0162	4.2500e-003	2.4000e-004	4.5000e-003	0.0000	16.1910	16.1910	7.4000e-004	0.0000	16.2064

3.14 F/R/P Mezz Floor Columns & Walls - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.14 F/R/P Mezz Floor Columns & Walls - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.15 Podium Deck Shoring - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638
Total	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.15 Podium Deck Shoring - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638
Total	3.2900e-003	0.0479	0.0209	9.0000e-005		1.3800e-003	1.3800e-003		1.2700e-003	1.2700e-003	0.0000	8.5091	8.5091	2.6100e-003	0.0000	8.5638

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6900e-003	8.5100e-003	0.0816	1.8000e-004	0.0153	1.2000e-004	0.0154	4.0600e-003	1.1000e-004	4.1700e-003	0.0000	13.3423	13.3423	7.2000e-004	0.0000	13.3574
Total	6.1400e-003	0.0142	0.0866	2.0000e-004	0.0156	1.9000e-004	0.0158	4.1600e-003	1.8000e-004	4.3300e-003	0.0000	14.7666	14.7666	7.3000e-004	0.0000	14.7819

3.16 F/R/P Podium Deck - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.4000e-004	0.0118	0.0105	3.0000e-005	7.4000e-004	1.5000e-004	8.9000e-004	2.0000e-004	1.4000e-004	3.4000e-004	0.0000	2.9843	2.9843	2.0000e-005	0.0000	2.9847
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9600e-003	8.9100e-003	0.0855	1.9000e-004	0.0160	1.3000e-004	0.0161	4.2500e-003	1.2000e-004	4.3700e-003	0.0000	13.9777	13.9777	7.5000e-004	0.0000	13.9935
Total	6.9000e-003	0.0208	0.0959	2.2000e-004	0.0167	2.8000e-004	0.0170	4.4500e-003	2.6000e-004	4.7100e-003	0.0000	16.9619	16.9619	7.7000e-004	0.0000	16.9782

3.16 F/R/P Podium Deck - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.4000e-004	0.0118	0.0105	3.0000e-005	7.4000e-004	1.5000e-004	8.9000e-004	2.0000e-004	1.4000e-004	3.4000e-004	0.0000	2.9843	2.9843	2.0000e-005	0.0000	2.9847
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9600e-003	8.9100e-003	0.0855	1.9000e-004	0.0160	1.3000e-004	0.0161	4.2500e-003	1.2000e-004	4.3700e-003	0.0000	13.9777	13.9777	7.5000e-004	0.0000	13.9935
Total	6.9000e-003	0.0208	0.0959	2.2000e-004	0.0167	2.8000e-004	0.0170	4.4500e-003	2.6000e-004	4.7100e-003	0.0000	16.9619	16.9619	7.7000e-004	0.0000	16.9782

3.17 2nd Floor Framing - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.8000e-004	8.6100e-003	7.6200e-003	2.0000e-005	5.4000e-004	1.1000e-004	6.5000e-004	1.5000e-004	1.0000e-004	2.5000e-004	0.0000	2.1704	2.1704	2.0000e-005	0.0000	2.1707
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0130	0.0195	0.1864	4.2000e-004	0.0349	2.8000e-004	0.0351	9.2700e-003	2.6000e-004	9.5300e-003	0.0000	30.4968	30.4968	1.6400e-003	0.0000	30.5312
Total	0.0137	0.0281	0.1941	4.4000e-004	0.0354	3.9000e-004	0.0358	9.4200e-003	3.6000e-004	9.7800e-003	0.0000	32.6672	32.6672	1.6600e-003	0.0000	32.7019

3.17 2nd Floor Framing - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.8000e-004	8.6100e-003	7.6200e-003	2.0000e-005	5.4000e-004	1.1000e-004	6.5000e-004	1.5000e-004	1.0000e-004	2.5000e-004	0.0000	2.1704	2.1704	2.0000e-005	0.0000	2.1707
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0130	0.0195	0.1864	4.2000e-004	0.0349	2.8000e-004	0.0351	9.2700e-003	2.6000e-004	9.5300e-003	0.0000	30.4968	30.4968	1.6400e-003	0.0000	30.5312
Total	0.0137	0.0281	0.1941	4.4000e-004	0.0354	3.9000e-004	0.0358	9.4200e-003	3.6000e-004	9.7800e-003	0.0000	32.6672	32.6672	1.6600e-003	0.0000	32.7019

3.18 3rd Floor Framing - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.6000e-004	8.3400e-003	7.3900e-003	2.0000e-005	5.2000e-004	1.1000e-004	6.3000e-004	1.4000e-004	1.0000e-004	2.4000e-004	0.0000	2.1025	2.1025	2.0000e-005	0.0000	2.1029
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0126	0.0188	0.1806	4.0000e-004	0.0338	2.7000e-004	0.0340	8.9800e-003	2.5000e-004	9.2300e-003	0.0000	29.5438	29.5438	1.5900e-003	0.0000	29.5771
Total	0.0133	0.0272	0.1880	4.2000e-004	0.0343	3.8000e-004	0.0347	9.1200e-003	3.5000e-004	9.4700e-003	0.0000	31.6463	31.6463	1.6100e-003	0.0000	31.6800

3.18 3rd Floor Framing - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.6000e-004	8.3400e-003	7.3900e-003	2.0000e-005	5.2000e-004	1.1000e-004	6.3000e-004	1.4000e-004	1.0000e-004	2.4000e-004	0.0000	2.1025	2.1025	2.0000e-005	0.0000	2.1029
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0126	0.0188	0.1806	4.0000e-004	0.0338	2.7000e-004	0.0340	8.9800e-003	2.5000e-004	9.2300e-003	0.0000	29.5438	29.5438	1.5900e-003	0.0000	29.5771
Total	0.0133	0.0272	0.1880	4.2000e-004	0.0343	3.8000e-004	0.0347	9.1200e-003	3.5000e-004	9.4700e-003	0.0000	31.6463	31.6463	1.6100e-003	0.0000	31.6800

3.19 L1 Retail Remove Re-shores - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	1.6100e-003	1.4300e-003	0.0000	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.4069	0.4069	0.0000	0.0000	0.4070
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6300e-003	2.4300e-003	0.0233	5.0000e-005	4.3600e-003	4.0000e-005	4.3900e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.8121	3.8121	2.0000e-004	0.0000	3.8164
Total	1.7600e-003	4.0400e-003	0.0247	5.0000e-005	4.4600e-003	6.0000e-005	4.5100e-003	1.1900e-003	5.0000e-005	1.2400e-003	0.0000	4.2190	4.2190	2.0000e-004	0.0000	4.2234

3.19 L1 Retail Remove Re-shores - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	1.6100e-003	1.4300e-003	0.0000	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.4069	0.4069	0.0000	0.0000	0.4070
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6300e-003	2.4300e-003	0.0233	5.0000e-005	4.3600e-003	4.0000e-005	4.3900e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.8121	3.8121	2.0000e-004	0.0000	3.8164
Total	1.7600e-003	4.0400e-003	0.0247	5.0000e-005	4.4600e-003	6.0000e-005	4.5100e-003	1.1900e-003	5.0000e-005	1.2400e-003	0.0000	4.2190	4.2190	2.0000e-004	0.0000	4.2234

3.20 L2 Rough In - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0500e-003	0.0258	0.0229	7.0000e-005	1.6200e-003	3.3000e-004	1.9500e-003	4.5000e-004	3.1000e-004	7.5000e-004	0.0000	6.5111	6.5111	5.0000e-005	0.0000	6.5121
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0390	0.0583	0.5593	1.2500e-003	0.1046	8.5000e-004	0.1054	0.0278	7.8000e-004	0.0286	0.0000	91.4904	91.4904	4.9200e-003	0.0000	91.5936
Total	0.0411	0.0842	0.5822	1.3200e-003	0.1062	1.1800e-003	0.1074	0.0283	1.0900e-003	0.0294	0.0000	98.0015	98.0015	4.9700e-003	0.0000	98.1057

3.20 L2 Rough In - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0500e-003	0.0258	0.0229	7.0000e-005	1.6200e-003	3.3000e-004	1.9500e-003	4.5000e-004	3.1000e-004	7.5000e-004	0.0000	6.5111	6.5111	5.0000e-005	0.0000	6.5121
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0390	0.0583	0.5593	1.2500e-003	0.1046	8.5000e-004	0.1054	0.0278	7.8000e-004	0.0286	0.0000	91.4904	91.4904	4.9200e-003	0.0000	91.5936
Total	0.0411	0.0842	0.5822	1.3200e-003	0.1062	1.1800e-003	0.1074	0.0283	1.0900e-003	0.0294	0.0000	98.0015	98.0015	4.9700e-003	0.0000	98.1057

3.21 L1 Retail Storefronts - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7100e-003	0.0668	0.0457	6.0000e-005		5.5100e-003	5.5100e-003		5.0700e-003	5.0700e-003	0.0000	5.1843	5.1843	1.5900e-003	0.0000	5.2177
Total	7.7100e-003	0.0668	0.0457	6.0000e-005		5.5100e-003	5.5100e-003		5.0700e-003	5.0700e-003	0.0000	5.1843	5.1843	1.5900e-003	0.0000	5.2177

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1100e-003	0.0106	0.1020	2.3000e-004	0.0191	1.6000e-004	0.0192	5.0700e-003	1.4000e-004	5.2100e-003	0.0000	16.6779	16.6779	9.0000e-004	0.0000	16.6967
Total	7.5600e-003	0.0163	0.1070	2.5000e-004	0.0194	2.3000e-004	0.0197	5.1700e-003	2.1000e-004	5.3700e-003	0.0000	18.1022	18.1022	9.1000e-004	0.0000	18.1213

3.21 L1 Retail Storefronts - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7100e-003	0.0668	0.0457	6.0000e-005		5.5100e-003	5.5100e-003		5.0700e-003	5.0700e-003	0.0000	5.1843	5.1843	1.5900e-003	0.0000	5.2177
Total	7.7100e-003	0.0668	0.0457	6.0000e-005		5.5100e-003	5.5100e-003		5.0700e-003	5.0700e-003	0.0000	5.1843	5.1843	1.5900e-003	0.0000	5.2177

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5000e-004	5.6500e-003	5.0000e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.4243	1.4243	1.0000e-005	0.0000	1.4245
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1100e-003	0.0106	0.1020	2.3000e-004	0.0191	1.6000e-004	0.0192	5.0700e-003	1.4000e-004	5.2100e-003	0.0000	16.6779	16.6779	9.0000e-004	0.0000	16.6967
Total	7.5600e-003	0.0163	0.1070	2.5000e-004	0.0194	2.3000e-004	0.0197	5.1700e-003	2.1000e-004	5.3700e-003	0.0000	18.1022	18.1022	9.1000e-004	0.0000	18.1213

3.22 L1 Retail Build out - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8200e-003	0.0229	0.0203	6.0000e-005	1.5700e-003	2.9000e-004	1.8700e-003	4.3000e-004	2.7000e-004	7.0000e-004	0.0000	5.7650	5.7650	4.0000e-005	0.0000	5.7659
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0346	0.0517	0.4952	1.1000e-003	0.0926	7.5000e-004	0.0933	0.0246	6.9000e-004	0.0253	0.0000	81.0071	81.0071	4.3500e-003	0.0000	81.0985
Total	0.0364	0.0745	0.5155	1.1600e-003	0.0942	1.0400e-003	0.0952	0.0251	9.6000e-004	0.0260	0.0000	86.7721	86.7721	4.3900e-003	0.0000	86.8644

3.22 L1 Retail Build out - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8200e-003	0.0229	0.0203	6.0000e-005	1.5700e-003	2.9000e-004	1.8700e-003	4.3000e-004	2.7000e-004	7.0000e-004	0.0000	5.7650	5.7650	4.0000e-005	0.0000	5.7659
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0346	0.0517	0.4952	1.1000e-003	0.0926	7.5000e-004	0.0933	0.0246	6.9000e-004	0.0253	0.0000	81.0071	81.0071	4.3500e-003	0.0000	81.0985
Total	0.0364	0.0745	0.5155	1.1600e-003	0.0942	1.0400e-003	0.0952	0.0251	9.6000e-004	0.0260	0.0000	86.7721	86.7721	4.3900e-003	0.0000	86.8644

3.22 L1 Retail Build out - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3000e-004	2.6900e-003	2.5500e-003	1.0000e-005	1.2600e-003	4.0000e-005	1.3000e-003	3.1000e-004	3.0000e-005	3.5000e-004	0.0000	0.7331	0.7331	1.0000e-005	0.0000	0.7333
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9700e-003	6.0100e-003	0.0572	1.4000e-004	0.0120	9.0000e-005	0.0121	3.1900e-003	9.0000e-005	3.2700e-003	0.0000	10.0939	10.0939	5.2000e-004	0.0000	10.1048
Total	4.2000e-003	8.7000e-003	0.0597	1.5000e-004	0.0132	1.3000e-004	0.0134	3.5000e-003	1.2000e-004	3.6200e-003	0.0000	10.8271	10.8271	5.3000e-004	0.0000	10.8381

3.22 L1 Retail Build out - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3000e-004	2.6900e-003	2.5500e-003	1.0000e-005	1.2600e-003	4.0000e-005	1.3000e-003	3.1000e-004	3.0000e-005	3.5000e-004	0.0000	0.7331	0.7331	1.0000e-005	0.0000	0.7333
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9700e-003	6.0100e-003	0.0572	1.4000e-004	0.0120	9.0000e-005	0.0121	3.1900e-003	9.0000e-005	3.2700e-003	0.0000	10.0939	10.0939	5.2000e-004	0.0000	10.1048
Total	4.2000e-003	8.7000e-003	0.0597	1.5000e-004	0.0132	1.3000e-004	0.0134	3.5000e-003	1.2000e-004	3.6200e-003	0.0000	10.8271	10.8271	5.3000e-004	0.0000	10.8381

3.23 L1 Parking Remove Re-shores - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	1.6100e-003	1.4300e-003	0.0000	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.4069	0.4069	0.0000	0.0000	0.4070
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6300e-003	2.4300e-003	0.0233	5.0000e-005	4.3600e-003	4.0000e-005	4.3900e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.8121	3.8121	2.0000e-004	0.0000	3.8164
Total	1.7600e-003	4.0400e-003	0.0247	5.0000e-005	4.4600e-003	6.0000e-005	4.5100e-003	1.1900e-003	5.0000e-005	1.2400e-003	0.0000	4.2190	4.2190	2.0000e-004	0.0000	4.2234

3.23 L1 Parking Remove Re-shores - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	1.6100e-003	1.4300e-003	0.0000	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.4069	0.4069	0.0000	0.0000	0.4070
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6300e-003	2.4300e-003	0.0233	5.0000e-005	4.3600e-003	4.0000e-005	4.3900e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.8121	3.8121	2.0000e-004	0.0000	3.8164
Total	1.7600e-003	4.0400e-003	0.0247	5.0000e-005	4.4600e-003	6.0000e-005	4.5100e-003	1.1900e-003	5.0000e-005	1.2400e-003	0.0000	4.2190	4.2190	2.0000e-004	0.0000	4.2234

3.24 L1 Parking Build out - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0344	0.3508	0.2619	3.9000e-004		0.0213	0.0213		0.0196	0.0196	0.0000	35.4547	35.4547	0.0107	0.0000	35.6785
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0344	0.3508	0.2619	3.9000e-004		0.0213	0.0213		0.0196	0.0196	0.0000	35.4547	35.4547	0.0107	0.0000	35.6785

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2400e-003	0.0156	0.0138	4.0000e-005	9.8000e-004	2.0000e-004	1.1800e-003	2.7000e-004	1.8000e-004	4.5000e-004	0.0000	3.9338	3.9338	3.0000e-005	0.0000	3.9344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0236	0.0353	0.3379	7.5000e-004	0.0632	5.1000e-004	0.0637	0.0168	4.7000e-004	0.0173	0.0000	55.2754	55.2754	2.9700e-003	0.0000	55.3378
Total	0.0248	0.0509	0.3517	7.9000e-004	0.0642	7.1000e-004	0.0649	0.0171	6.5000e-004	0.0177	0.0000	59.2092	59.2092	3.0000e-003	0.0000	59.2722

3.24 L1 Parking Build out - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0344	0.3508	0.2619	3.9000e-004		0.0213	0.0213		0.0196	0.0196	0.0000	35.4546	35.4546	0.0107	0.0000	35.6785
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0344	0.3508	0.2619	3.9000e-004		0.0213	0.0213		0.0196	0.0196	0.0000	35.4546	35.4546	0.0107	0.0000	35.6785

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2400e-003	0.0156	0.0138	4.0000e-005	9.8000e-004	2.0000e-004	1.1800e-003	2.7000e-004	1.8000e-004	4.5000e-004	0.0000	3.9338	3.9338	3.0000e-005	0.0000	3.9344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0236	0.0353	0.3379	7.5000e-004	0.0632	5.1000e-004	0.0637	0.0168	4.7000e-004	0.0173	0.0000	55.2754	55.2754	2.9700e-003	0.0000	55.3378
Total	0.0248	0.0509	0.3517	7.9000e-004	0.0642	7.1000e-004	0.0649	0.0171	6.5000e-004	0.0177	0.0000	59.2092	59.2092	3.0000e-003	0.0000	59.2722

3.25 4th Floor Framing - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.6000e-004	8.3400e-003	7.3900e-003	2.0000e-005	5.2000e-004	1.1000e-004	6.3000e-004	1.4000e-004	1.0000e-004	2.4000e-004	0.0000	2.1025	2.1025	2.0000e-005	0.0000	2.1029
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0126	0.0188	0.1806	4.0000e-004	0.0338	2.7000e-004	0.0340	8.9800e-003	2.5000e-004	9.2300e-003	0.0000	29.5438	29.5438	1.5900e-003	0.0000	29.5771
Total	0.0133	0.0272	0.1880	4.2000e-004	0.0343	3.8000e-004	0.0347	9.1200e-003	3.5000e-004	9.4700e-003	0.0000	31.6463	31.6463	1.6100e-003	0.0000	31.6800

3.25 4th Floor Framing - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.6000e-004	8.3400e-003	7.3900e-003	2.0000e-005	5.2000e-004	1.1000e-004	6.3000e-004	1.4000e-004	1.0000e-004	2.4000e-004	0.0000	2.1025	2.1025	2.0000e-005	0.0000	2.1029
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0126	0.0188	0.1806	4.0000e-004	0.0338	2.7000e-004	0.0340	8.9800e-003	2.5000e-004	9.2300e-003	0.0000	29.5438	29.5438	1.5900e-003	0.0000	29.5771
Total	0.0133	0.0272	0.1880	4.2000e-004	0.0343	3.8000e-004	0.0347	9.1200e-003	3.5000e-004	9.4700e-003	0.0000	31.6463	31.6463	1.6100e-003	0.0000	31.6800

3.26 L3 Rough In - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4700e-003	0.0186	0.0164	5.0000e-005	1.5200e-003	2.4000e-004	1.7600e-003	4.1000e-004	2.2000e-004	6.3000e-004	0.0000	4.6799	4.6799	3.0000e-005	0.0000	4.6806
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0280	0.0419	0.4020	9.0000e-004	0.0752	6.1000e-004	0.0758	0.0200	5.6000e-004	0.0206	0.0000	65.7587	65.7587	3.5300e-003	0.0000	65.8329
Total	0.0295	0.0605	0.4184	9.5000e-004	0.0767	8.5000e-004	0.0775	0.0204	7.8000e-004	0.0212	0.0000	70.4385	70.4385	3.5600e-003	0.0000	70.5135

3.26 L3 Rough In - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4700e-003	0.0186	0.0164	5.0000e-005	1.5200e-003	2.4000e-004	1.7600e-003	4.1000e-004	2.2000e-004	6.3000e-004	0.0000	4.6799	4.6799	3.0000e-005	0.0000	4.6806
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0280	0.0419	0.4020	9.0000e-004	0.0752	6.1000e-004	0.0758	0.0200	5.6000e-004	0.0206	0.0000	65.7587	65.7587	3.5300e-003	0.0000	65.8329
Total	0.0295	0.0605	0.4184	9.5000e-004	0.0767	8.5000e-004	0.0775	0.0204	7.8000e-004	0.0212	0.0000	70.4385	70.4385	3.5600e-003	0.0000	70.5135

3.26 L3 Rough In - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.8000e-004	6.8400e-003	6.4900e-003	2.0000e-005	1.3500e-003	1.0000e-004	1.4400e-003	3.4000e-004	9.0000e-005	4.3000e-004	0.0000	1.8662	1.8662	1.0000e-005	0.0000	1.8665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	0.0153	0.1455	3.6000e-004	0.0305	2.4000e-004	0.0307	8.1100e-003	2.2000e-004	8.3300e-003	0.0000	25.6936	25.6936	1.3200e-003	0.0000	25.7213
Total	0.0107	0.0221	0.1520	3.8000e-004	0.0319	3.4000e-004	0.0322	8.4500e-003	3.1000e-004	8.7600e-003	0.0000	27.5598	27.5598	1.3300e-003	0.0000	27.5878

3.26 L3 Rough In - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.8000e-004	6.8400e-003	6.4900e-003	2.0000e-005	1.3500e-003	1.0000e-004	1.4400e-003	3.4000e-004	9.0000e-005	4.3000e-004	0.0000	1.8662	1.8662	1.0000e-005	0.0000	1.8665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	0.0153	0.1455	3.6000e-004	0.0305	2.4000e-004	0.0307	8.1100e-003	2.2000e-004	8.3300e-003	0.0000	25.6936	25.6936	1.3200e-003	0.0000	25.7213
Total	0.0107	0.0221	0.1520	3.8000e-004	0.0319	3.4000e-004	0.0322	8.4500e-003	3.1000e-004	8.7600e-003	0.0000	27.5598	27.5598	1.3300e-003	0.0000	27.5878

3.27 Mezz Parking Remove Re-shores - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	1.6100e-003	1.4300e-003	0.0000	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.4069	0.4069	0.0000	0.0000	0.4070
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6300e-003	2.4300e-003	0.0233	5.0000e-005	4.3600e-003	4.0000e-005	4.3900e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.8121	3.8121	2.0000e-004	0.0000	3.8164
Total	1.7600e-003	4.0400e-003	0.0247	5.0000e-005	4.4600e-003	6.0000e-005	4.5100e-003	1.1900e-003	5.0000e-005	1.2400e-003	0.0000	4.2190	4.2190	2.0000e-004	0.0000	4.2234

3.27 Mezz Parking Remove Re-shores - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	1.6100e-003	1.4300e-003	0.0000	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.4069	0.4069	0.0000	0.0000	0.4070
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6300e-003	2.4300e-003	0.0233	5.0000e-005	4.3600e-003	4.0000e-005	4.3900e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.8121	3.8121	2.0000e-004	0.0000	3.8164
Total	1.7600e-003	4.0400e-003	0.0247	5.0000e-005	4.4600e-003	6.0000e-005	4.5100e-003	1.1900e-003	5.0000e-005	1.2400e-003	0.0000	4.2190	4.2190	2.0000e-004	0.0000	4.2234

3.28 Mezz Parking Build out - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0255	0.2601	0.1942	2.9000e-004		0.0158	0.0158		0.0145	0.0145	0.0000	26.2854	26.2854	7.9000e-003	0.0000	26.4513
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0255	0.2601	0.1942	2.9000e-004		0.0158	0.0158		0.0145	0.0145	0.0000	26.2854	26.2854	7.9000e-003	0.0000	26.4513

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.2000e-004	0.0116	0.0102	3.0000e-005	1.0800e-003	1.5000e-004	1.2300e-003	2.9000e-004	1.4000e-004	4.2000e-004	0.0000	2.9164	2.9164	2.0000e-005	0.0000	2.9169
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0175	0.0261	0.2505	5.6000e-004	0.0468	3.8000e-004	0.0472	0.0125	3.5000e-004	0.0128	0.0000	40.9801	40.9801	2.2000e-003	0.0000	41.0263
Total	0.0184	0.0377	0.2608	5.9000e-004	0.0479	5.3000e-004	0.0485	0.0128	4.9000e-004	0.0132	0.0000	43.8965	43.8965	2.2200e-003	0.0000	43.9432

3.28 Mezz Parking Build out - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0255	0.2601	0.1942	2.9000e-004		0.0158	0.0158		0.0145	0.0145	0.0000	26.2853	26.2853	7.9000e-003	0.0000	26.4513
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0255	0.2601	0.1942	2.9000e-004		0.0158	0.0158		0.0145	0.0145	0.0000	26.2853	26.2853	7.9000e-003	0.0000	26.4513

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.2000e-004	0.0116	0.0102	3.0000e-005	1.0800e-003	1.5000e-004	1.2300e-003	2.9000e-004	1.4000e-004	4.2000e-004	0.0000	2.9164	2.9164	2.0000e-005	0.0000	2.9169
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0175	0.0261	0.2505	5.6000e-004	0.0468	3.8000e-004	0.0472	0.0125	3.5000e-004	0.0128	0.0000	40.9801	40.9801	2.2000e-003	0.0000	41.0263
Total	0.0184	0.0377	0.2608	5.9000e-004	0.0479	5.3000e-004	0.0485	0.0128	4.9000e-004	0.0132	0.0000	43.8965	43.8965	2.2200e-003	0.0000	43.9432

3.28 Mezz Parking Build out - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0141	0.1443	0.1242	1.9000e-004		8.4400e-003	8.4400e-003		7.7700e-003	7.7700e-003	0.0000	16.8483	16.8483	5.1500e-003	0.0000	16.9563
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0141	0.1443	0.1242	1.9000e-004		8.4400e-003	8.4400e-003		7.7700e-003	7.7700e-003	0.0000	16.8483	16.8483	5.1500e-003	0.0000	16.9563

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.8000e-004	6.8400e-003	6.4900e-003	2.0000e-005	1.0200e-003	1.0000e-004	1.1100e-003	2.6000e-004	9.0000e-005	3.5000e-004	0.0000	1.8662	1.8662	1.0000e-005	0.0000	1.8665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	0.0153	0.1455	3.6000e-004	0.0305	2.4000e-004	0.0307	8.1100e-003	2.2000e-004	8.3300e-003	0.0000	25.6936	25.6936	1.3200e-003	0.0000	25.7213
Total	0.0107	0.0221	0.1520	3.8000e-004	0.0315	3.4000e-004	0.0319	8.3700e-003	3.1000e-004	8.6800e-003	0.0000	27.5598	27.5598	1.3300e-003	0.0000	27.5878

3.28 Mezz Parking Build out - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0141	0.1443	0.1242	1.9000e-004		8.4400e-003	8.4400e-003		7.7700e-003	7.7700e-003	0.0000	16.8483	16.8483	5.1500e-003	0.0000	16.9563
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0141	0.1443	0.1242	1.9000e-004		8.4400e-003	8.4400e-003		7.7700e-003	7.7700e-003	0.0000	16.8483	16.8483	5.1500e-003	0.0000	16.9563

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.8000e-004	6.8400e-003	6.4900e-003	2.0000e-005	1.0200e-003	1.0000e-004	1.1100e-003	2.6000e-004	9.0000e-005	3.5000e-004	0.0000	1.8662	1.8662	1.0000e-005	0.0000	1.8665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	0.0153	0.1455	3.6000e-004	0.0305	2.4000e-004	0.0307	8.1100e-003	2.2000e-004	8.3300e-003	0.0000	25.6936	25.6936	1.3200e-003	0.0000	25.7213
Total	0.0107	0.0221	0.1520	3.8000e-004	0.0315	3.4000e-004	0.0319	8.3700e-003	3.1000e-004	8.6800e-003	0.0000	27.5598	27.5598	1.3300e-003	0.0000	27.5878

3.29 5th Floor Framing - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.6000e-004	8.3400e-003	7.3900e-003	2.0000e-005	5.2000e-004	1.1000e-004	6.3000e-004	1.4000e-004	1.0000e-004	2.4000e-004	0.0000	2.1025	2.1025	2.0000e-005	0.0000	2.1029
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0134	0.0201	0.1923	4.3000e-004	0.0359	2.9000e-004	0.0362	9.5600e-003	2.7000e-004	9.8300e-003	0.0000	31.4498	31.4498	1.6900e-003	0.0000	31.4853
Total	0.0141	0.0284	0.1997	4.5000e-004	0.0365	4.0000e-004	0.0369	9.7000e-003	3.7000e-004	0.0101	0.0000	33.5524	33.5524	1.7100e-003	0.0000	33.5882

3.29 5th Floor Framing - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.6000e-004	8.3400e-003	7.3900e-003	2.0000e-005	5.2000e-004	1.1000e-004	6.3000e-004	1.4000e-004	1.0000e-004	2.4000e-004	0.0000	2.1025	2.1025	2.0000e-005	0.0000	2.1029
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0134	0.0201	0.1923	4.3000e-004	0.0359	2.9000e-004	0.0362	9.5600e-003	2.7000e-004	9.8300e-003	0.0000	31.4498	31.4498	1.6900e-003	0.0000	31.4853
Total	0.0141	0.0284	0.1997	4.5000e-004	0.0365	4.0000e-004	0.0369	9.7000e-003	3.7000e-004	0.0101	0.0000	33.5524	33.5524	1.7100e-003	0.0000	33.5882

3.30 L4 Rough In - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.3000e-004	0.0105	9.2900e-003	3.0000e-005	1.3900e-003	1.4000e-004	1.5300e-003	3.6000e-004	1.2000e-004	4.9000e-004	0.0000	2.6451	2.6451	2.0000e-005	0.0000	2.6455
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0159	0.0237	0.2272	5.1000e-004	0.0425	3.5000e-004	0.0428	0.0113	3.2000e-004	0.0116	0.0000	37.1680	37.1680	2.0000e-003	0.0000	37.2099
Total	0.0167	0.0342	0.2365	5.4000e-004	0.0439	4.9000e-004	0.0444	0.0117	4.4000e-004	0.0121	0.0000	39.8131	39.8131	2.0200e-003	0.0000	39.8554

3.30 L4 Rough In - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.3000e-004	0.0105	9.2900e-003	3.0000e-005	1.3900e-003	1.4000e-004	1.5300e-003	3.6000e-004	1.2000e-004	4.9000e-004	0.0000	2.6451	2.6451	2.0000e-005	0.0000	2.6455
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0159	0.0237	0.2272	5.1000e-004	0.0425	3.5000e-004	0.0428	0.0113	3.2000e-004	0.0116	0.0000	37.1680	37.1680	2.0000e-003	0.0000	37.2099
Total	0.0167	0.0342	0.2365	5.4000e-004	0.0439	4.9000e-004	0.0444	0.0117	4.4000e-004	0.0121	0.0000	39.8131	39.8131	2.0200e-003	0.0000	39.8554

3.30 L4 Rough In - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-003	0.0142	0.0135	4.0000e-005	1.4700e-003	2.0000e-004	1.6700e-003	3.9000e-004	1.8000e-004	5.7000e-004	0.0000	3.8657	3.8657	3.0000e-005	0.0000	3.8663
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0209	0.0317	0.3014	7.5000e-004	0.0632	5.0000e-004	0.0637	0.0168	4.6000e-004	0.0173	0.0000	53.2225	53.2225	2.7300e-003	0.0000	53.2798
Total	0.0221	0.0459	0.3148	7.9000e-004	0.0646	7.0000e-004	0.0653	0.0172	6.4000e-004	0.0178	0.0000	57.0882	57.0882	2.7600e-003	0.0000	57.1461

3.30 L4 Rough In - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-003	0.0142	0.0135	4.0000e-005	1.4700e-003	2.0000e-004	1.6700e-003	3.9000e-004	1.8000e-004	5.7000e-004	0.0000	3.8657	3.8657	3.0000e-005	0.0000	3.8663
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0209	0.0317	0.3014	7.5000e-004	0.0632	5.0000e-004	0.0637	0.0168	4.6000e-004	0.0173	0.0000	53.2225	53.2225	2.7300e-003	0.0000	53.2798
Total	0.0221	0.0459	0.3148	7.9000e-004	0.0646	7.0000e-004	0.0653	0.0172	6.4000e-004	0.0178	0.0000	57.0882	57.0882	2.7600e-003	0.0000	57.1461

3.31 L2 Finishes - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3200e-003	0.0219	0.0187	3.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	2.5533	2.5533	2.7000e-004	0.0000	2.5589
Total	0.4299	0.0219	0.0187	3.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	2.5533	2.5533	2.7000e-004	0.0000	2.5589

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.3000e-004	5.3800e-003	4.7600e-003	2.0000e-005	1.2900e-003	7.0000e-005	1.3600e-003	3.3000e-004	6.0000e-005	3.9000e-004	0.0000	1.3565	1.3565	1.0000e-005	0.0000	1.3567
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1300e-003	0.0122	0.1165	2.6000e-004	0.0218	1.8000e-004	0.0220	5.7900e-003	1.6000e-004	5.9600e-003	0.0000	19.0605	19.0605	1.0200e-003	0.0000	19.0820
Total	8.5600e-003	0.0175	0.1213	2.8000e-004	0.0231	2.5000e-004	0.0233	6.1200e-003	2.2000e-004	6.3500e-003	0.0000	20.4170	20.4170	1.0300e-003	0.0000	20.4387

3.31 L2 Finishes - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3200e-003	0.0219	0.0187	3.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	2.5533	2.5533	2.7000e-004	0.0000	2.5589
Total	0.4299	0.0219	0.0187	3.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	2.5533	2.5533	2.7000e-004	0.0000	2.5589

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.3000e-004	5.3800e-003	4.7600e-003	2.0000e-005	1.2900e-003	7.0000e-005	1.3600e-003	3.3000e-004	6.0000e-005	3.9000e-004	0.0000	1.3565	1.3565	1.0000e-005	0.0000	1.3567
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1300e-003	0.0122	0.1165	2.6000e-004	0.0218	1.8000e-004	0.0220	5.7900e-003	1.6000e-004	5.9600e-003	0.0000	19.0605	19.0605	1.0200e-003	0.0000	19.0820
Total	8.5600e-003	0.0175	0.1213	2.8000e-004	0.0231	2.5000e-004	0.0233	6.1200e-003	2.2000e-004	6.3500e-003	0.0000	20.4170	20.4170	1.0300e-003	0.0000	20.4387

3.31 L2 Finishes - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0112	0.0752	0.0695	1.1000e-004		5.6500e-003	5.6500e-003		5.6500e-003	5.6500e-003	0.0000	9.5747	9.5747	9.1000e-004	0.0000	9.5938
Total	1.6110	0.0752	0.0695	1.1000e-004		5.6500e-003	5.6500e-003		5.6500e-003	5.6500e-003	0.0000	9.5747	9.5747	9.1000e-004	0.0000	9.5938

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5500e-003	0.0183	0.0174	6.0000e-005	1.5200e-003	2.6000e-004	1.7800e-003	4.1000e-004	2.4000e-004	6.5000e-004	0.0000	4.9987	4.9987	4.0000e-005	0.0000	4.9995
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0271	0.0410	0.3897	9.7000e-004	0.0817	6.4000e-004	0.0823	0.0217	5.9000e-004	0.0223	0.0000	68.8222	68.8222	3.5300e-003	0.0000	68.8963
Total	0.0286	0.0593	0.4071	1.0300e-003	0.0832	9.0000e-004	0.0841	0.0221	8.3000e-004	0.0230	0.0000	73.8210	73.8210	3.5700e-003	0.0000	73.8958

3.31 L2 Finishes - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0112	0.0752	0.0695	1.1000e-004		5.6500e-003	5.6500e-003		5.6500e-003	5.6500e-003	0.0000	9.5747	9.5747	9.1000e-004	0.0000	9.5938
Total	1.6110	0.0752	0.0695	1.1000e-004		5.6500e-003	5.6500e-003		5.6500e-003	5.6500e-003	0.0000	9.5747	9.5747	9.1000e-004	0.0000	9.5938

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5500e-003	0.0183	0.0174	6.0000e-005	1.5200e-003	2.6000e-004	1.7800e-003	4.1000e-004	2.4000e-004	6.5000e-004	0.0000	4.9987	4.9987	4.0000e-005	0.0000	4.9995
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0271	0.0410	0.3897	9.7000e-004	0.0817	6.4000e-004	0.0823	0.0217	5.9000e-004	0.0223	0.0000	68.8222	68.8222	3.5300e-003	0.0000	68.8963
Total	0.0286	0.0593	0.4071	1.0300e-003	0.0832	9.0000e-004	0.0841	0.0221	8.3000e-004	0.0230	0.0000	73.8210	73.8210	3.5700e-003	0.0000	73.8958

3.32 6th Floor Framing - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	1.8300e-003	1.6200e-003	1.0000e-005	4.5000e-004	2.0000e-005	4.7000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	0.4608	0.4608	0.0000	0.0000	0.4609
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8500e-003	4.2500e-003	0.0408	9.0000e-005	7.6200e-003	6.0000e-005	7.6900e-003	2.0300e-003	6.0000e-005	2.0900e-003	0.0000	6.6712	6.6712	3.6000e-004	0.0000	6.6787
Total	3.0000e-003	6.0800e-003	0.0424	1.0000e-004	8.0700e-003	8.0000e-005	8.1600e-003	2.1400e-003	8.0000e-005	2.2200e-003	0.0000	7.1320	7.1320	3.6000e-004	0.0000	7.1396

3.32 6th Floor Framing - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	1.8300e-003	1.6200e-003	1.0000e-005	4.5000e-004	2.0000e-005	4.7000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	0.4608	0.4608	0.0000	0.0000	0.4609
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8500e-003	4.2500e-003	0.0408	9.0000e-005	7.6200e-003	6.0000e-005	7.6900e-003	2.0300e-003	6.0000e-005	2.0900e-003	0.0000	6.6712	6.6712	3.6000e-004	0.0000	6.6787
Total	3.0000e-003	6.0800e-003	0.0424	1.0000e-004	8.0700e-003	8.0000e-005	8.1600e-003	2.1400e-003	8.0000e-005	2.2200e-003	0.0000	7.1320	7.1320	3.6000e-004	0.0000	7.1396

3.32 6th Floor Framing - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4000e-004	6.4000e-003	6.0800e-003	2.0000e-005	5.3000e-004	9.0000e-005	6.2000e-004	1.4000e-004	8.0000e-005	2.3000e-004	0.0000	1.7466	1.7466	1.0000e-005	0.0000	1.7469
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7400e-003	0.0148	0.1403	3.5000e-004	0.0294	2.3000e-004	0.0296	7.8200e-003	2.1000e-004	8.0400e-003	0.0000	24.7760	24.7760	1.2700e-003	0.0000	24.8027
Total	0.0103	0.0212	0.1464	3.7000e-004	0.0299	3.2000e-004	0.0303	7.9600e-003	2.9000e-004	8.2700e-003	0.0000	26.5226	26.5226	1.2800e-003	0.0000	26.5495

3.32 6th Floor Framing - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4000e-004	6.4000e-003	6.0800e-003	2.0000e-005	5.3000e-004	9.0000e-005	6.2000e-004	1.4000e-004	8.0000e-005	2.3000e-004	0.0000	1.7466	1.7466	1.0000e-005	0.0000	1.7469
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7400e-003	0.0148	0.1403	3.5000e-004	0.0294	2.3000e-004	0.0296	7.8200e-003	2.1000e-004	8.0400e-003	0.0000	24.7760	24.7760	1.2700e-003	0.0000	24.8027
Total	0.0103	0.0212	0.1464	3.7000e-004	0.0299	3.2000e-004	0.0303	7.9600e-003	2.9000e-004	8.2700e-003	0.0000	26.5226	26.5226	1.2800e-003	0.0000	26.5495

3.33 L5 Rough In - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	1.8800e-003	1.6700e-003	1.0000e-005	1.2300e-003	2.0000e-005	1.2600e-003	3.1000e-004	2.0000e-005	3.3000e-004	0.0000	0.4748	0.4748	0.0000	0.0000	0.4748
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8500e-003	4.2500e-003	0.0408	9.0000e-005	7.6200e-003	6.0000e-005	7.6900e-003	2.0300e-003	6.0000e-005	2.0900e-003	0.0000	6.6712	6.6712	3.6000e-004	0.0000	6.6787
Total	3.0000e-003	6.1300e-003	0.0425	1.0000e-004	8.8500e-003	8.0000e-005	8.9500e-003	2.3400e-003	8.0000e-005	2.4200e-003	0.0000	7.1459	7.1459	3.6000e-004	0.0000	7.1535

3.33 L5 Rough In - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	1.8800e-003	1.6700e-003	1.0000e-005	1.2300e-003	2.0000e-005	1.2600e-003	3.1000e-004	2.0000e-005	3.3000e-004	0.0000	0.4748	0.4748	0.0000	0.0000	0.4748
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8500e-003	4.2500e-003	0.0408	9.0000e-005	7.6200e-003	6.0000e-005	7.6900e-003	2.0300e-003	6.0000e-005	2.0900e-003	0.0000	6.6712	6.6712	3.6000e-004	0.0000	6.6787
Total	3.0000e-003	6.1300e-003	0.0425	1.0000e-004	8.8500e-003	8.0000e-005	8.9500e-003	2.3400e-003	8.0000e-005	2.4200e-003	0.0000	7.1459	7.1459	3.6000e-004	0.0000	7.1535

3.33 L5 Rough In - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8200e-003	0.0215	0.0204	7.0000e-005	1.5700e-003	3.0000e-004	1.8800e-003	4.3000e-004	2.8000e-004	7.1000e-004	0.0000	5.8652	5.8652	4.0000e-005	0.0000	5.8661
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0317	0.0481	0.4573	1.1400e-003	0.0959	7.5000e-004	0.0966	0.0255	6.9000e-004	0.0262	0.0000	80.7514	80.7514	4.1400e-003	0.0000	80.8383
Total	0.0336	0.0696	0.4777	1.2100e-003	0.0974	1.0500e-003	0.0985	0.0259	9.7000e-004	0.0269	0.0000	86.6166	86.6166	4.1800e-003	0.0000	86.7044

3.33 L5 Rough In - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8200e-003	0.0215	0.0204	7.0000e-005	1.5700e-003	3.0000e-004	1.8800e-003	4.3000e-004	2.8000e-004	7.1000e-004	0.0000	5.8652	5.8652	4.0000e-005	0.0000	5.8661
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0317	0.0481	0.4573	1.1400e-003	0.0959	7.5000e-004	0.0966	0.0255	6.9000e-004	0.0262	0.0000	80.7514	80.7514	4.1400e-003	0.0000	80.8383
Total	0.0336	0.0696	0.4777	1.2100e-003	0.0974	1.0500e-003	0.0985	0.0259	9.7000e-004	0.0269	0.0000	86.6166	86.6166	4.1800e-003	0.0000	86.7044

3.34 L3 Finishes - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0137	0.0923	0.0853	1.4000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003	0.0000	11.7450	11.7450	1.1200e-003	0.0000	11.7684
Total	2.0402	0.0923	0.0853	1.4000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003	0.0000	11.7450	11.7450	1.1200e-003	0.0000	11.7684

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0225	0.0213	7.0000e-005	1.5500e-003	3.2000e-004	1.8700e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1318	6.1318	5.0000e-005	0.0000	6.1327
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0332	0.0503	0.4780	1.2000e-003	0.1002	7.9000e-004	0.1010	0.0267	7.3000e-004	0.0274	0.0000	84.4219	84.4219	4.3200e-003	0.0000	84.5128
Total	0.0351	0.0727	0.4994	1.2700e-003	0.1018	1.1100e-003	0.1029	0.0271	1.0200e-003	0.0281	0.0000	90.5537	90.5537	4.3700e-003	0.0000	90.6455

3.34 L3 Finishes - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0137	0.0923	0.0853	1.4000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003	0.0000	11.7450	11.7450	1.1200e-003	0.0000	11.7684
Total	2.0402	0.0923	0.0853	1.4000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003	0.0000	11.7450	11.7450	1.1200e-003	0.0000	11.7684

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0225	0.0213	7.0000e-005	1.5500e-003	3.2000e-004	1.8700e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1318	6.1318	5.0000e-005	0.0000	6.1327
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0332	0.0503	0.4780	1.2000e-003	0.1002	7.9000e-004	0.1010	0.0267	7.3000e-004	0.0274	0.0000	84.4219	84.4219	4.3200e-003	0.0000	84.5128
Total	0.0351	0.0727	0.4994	1.2700e-003	0.1018	1.1100e-003	0.1029	0.0271	1.0200e-003	0.0281	0.0000	90.5537	90.5537	4.3700e-003	0.0000	90.6455

3.35 Roof Framing - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.4000e-004	7.5800e-003	7.1900e-003	2.0000e-005	5.2000e-004	1.1000e-004	6.3000e-004	1.4000e-004	1.0000e-004	2.4000e-004	0.0000	2.0661	2.0661	2.0000e-005	0.0000	2.0665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0112	0.0169	0.1611	4.0000e-004	0.0338	2.6000e-004	0.0340	8.9800e-003	2.4000e-004	9.2300e-003	0.0000	28.4465	28.4465	1.4600e-003	0.0000	28.4771
Total	0.0118	0.0245	0.1683	4.2000e-004	0.0343	3.7000e-004	0.0347	9.1200e-003	3.4000e-004	9.4700e-003	0.0000	30.5127	30.5127	1.4800e-003	0.0000	30.5436

3.35 Roof Framing - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.4000e-004	7.5800e-003	7.1900e-003	2.0000e-005	5.2000e-004	1.1000e-004	6.3000e-004	1.4000e-004	1.0000e-004	2.4000e-004	0.0000	2.0661	2.0661	2.0000e-005	0.0000	2.0665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0112	0.0169	0.1611	4.0000e-004	0.0338	2.6000e-004	0.0340	8.9800e-003	2.4000e-004	9.2300e-003	0.0000	28.4465	28.4465	1.4600e-003	0.0000	28.4771
Total	0.0118	0.0245	0.1683	4.2000e-004	0.0343	3.7000e-004	0.0347	9.1200e-003	3.4000e-004	9.4700e-003	0.0000	30.5127	30.5127	1.4800e-003	0.0000	30.5436

3.36 L6 Rough In - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0225	0.0213	7.0000e-005	1.5500e-003	3.2000e-004	1.8700e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1318	6.1318	5.0000e-005	0.0000	6.1327
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0332	0.0503	0.4780	1.2000e-003	0.1002	7.9000e-004	0.1010	0.0267	7.3000e-004	0.0274	0.0000	84.4219	84.4219	4.3200e-003	0.0000	84.5128
Total	0.0351	0.0727	0.4994	1.2700e-003	0.1018	1.1100e-003	0.1029	0.0271	1.0200e-003	0.0281	0.0000	90.5537	90.5537	4.3700e-003	0.0000	90.6455

3.36 L6 Rough In - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0225	0.0213	7.0000e-005	1.5500e-003	3.2000e-004	1.8700e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1318	6.1318	5.0000e-005	0.0000	6.1327
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0332	0.0503	0.4780	1.2000e-003	0.1002	7.9000e-004	0.1010	0.0267	7.3000e-004	0.0274	0.0000	84.4219	84.4219	4.3200e-003	0.0000	84.5128
Total	0.0351	0.0727	0.4994	1.2700e-003	0.1018	1.1100e-003	0.1029	0.0271	1.0200e-003	0.0281	0.0000	90.5537	90.5537	4.3700e-003	0.0000	90.6455

3.37 L4 Finishes - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8727	11.8727	1.1300e-003	0.0000	11.8963
Total	2.0403	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8727	11.8727	1.1300e-003	0.0000	11.8963

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0227	0.0216	7.0000e-005	1.5700e-003	3.2000e-004	1.8900e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1984	6.1984	5.0000e-005	0.0000	6.1994
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0335	0.0508	0.4832	1.2100e-003	0.1013	7.9000e-004	0.1021	0.0269	7.3000e-004	0.0277	0.0000	85.3396	85.3396	4.3700e-003	0.0000	85.4314
Total	0.0355	0.0735	0.5048	1.2800e-003	0.1029	1.1100e-003	0.1040	0.0274	1.0200e-003	0.0284	0.0000	91.5380	91.5380	4.4200e-003	0.0000	91.6308

3.37 L4 Finishes - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8726	11.8726	1.1300e-003	0.0000	11.8963
Total	2.0403	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8726	11.8726	1.1300e-003	0.0000	11.8963

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0227	0.0216	7.0000e-005	1.5700e-003	3.2000e-004	1.8900e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1984	6.1984	5.0000e-005	0.0000	6.1994
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0335	0.0508	0.4832	1.2100e-003	0.1013	7.9000e-004	0.1021	0.0269	7.3000e-004	0.0277	0.0000	85.3396	85.3396	4.3700e-003	0.0000	85.4314
Total	0.0355	0.0735	0.5048	1.2800e-003	0.1029	1.1100e-003	0.1040	0.0274	1.0200e-003	0.0284	0.0000	91.5380	91.5380	4.4200e-003	0.0000	91.6308

3.38 Roofing - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.5200e-003	0.0576	0.0443	6.0000e-005		4.6000e-003	4.6000e-003		4.2300e-003	4.2300e-003	0.0000	5.1024	5.1024	1.5900e-003	0.0000	5.1358
Total	6.5200e-003	0.0576	0.0443	6.0000e-005		4.6000e-003	4.6000e-003		4.2300e-003	4.2300e-003	0.0000	5.1024	5.1024	1.5900e-003	0.0000	5.1358

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4000e-004	5.1300e-003	4.8700e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.3996	1.3996	1.0000e-005	0.0000	1.3999
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	9.6000e-004	9.0900e-003	2.0000e-005	1.9100e-003	1.0000e-005	1.9200e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6059	1.6059	8.0000e-005	0.0000	1.6076
Total	1.0700e-003	6.0900e-003	0.0140	4.0000e-005	2.2600e-003	8.0000e-005	2.3500e-003	6.1000e-004	8.0000e-005	6.8000e-004	0.0000	3.0055	3.0055	9.0000e-005	0.0000	3.0074

3.38 Roofing - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.5200e-003	0.0576	0.0443	6.0000e-005		4.6000e-003	4.6000e-003		4.2300e-003	4.2300e-003	0.0000	5.1024	5.1024	1.5900e-003	0.0000	5.1358
Total	6.5200e-003	0.0576	0.0443	6.0000e-005		4.6000e-003	4.6000e-003		4.2300e-003	4.2300e-003	0.0000	5.1024	5.1024	1.5900e-003	0.0000	5.1358

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4000e-004	5.1300e-003	4.8700e-003	2.0000e-005	3.5000e-004	7.0000e-005	4.3000e-004	1.0000e-004	7.0000e-005	1.6000e-004	0.0000	1.3996	1.3996	1.0000e-005	0.0000	1.3999
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	9.6000e-004	9.0900e-003	2.0000e-005	1.9100e-003	1.0000e-005	1.9200e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6059	1.6059	8.0000e-005	0.0000	1.6076
Total	1.0700e-003	6.0900e-003	0.0140	4.0000e-005	2.2600e-003	8.0000e-005	2.3500e-003	6.1000e-004	8.0000e-005	6.8000e-004	0.0000	3.0055	3.0055	9.0000e-005	0.0000	3.0074

3.39 Exterior Finishes - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0685	0.5580	0.4525	6.2000e-004		0.0438	0.0438		0.0412	0.0412	0.0000	55.2248	55.2248	0.0131	0.0000	55.4995
Total	2.0949	0.5580	0.4525	6.2000e-004		0.0438	0.0438		0.0412	0.0412	0.0000	55.2248	55.2248	0.0131	0.0000	55.4995

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0900e-003	0.0364	0.0346	1.1000e-004	2.5100e-003	5.1000e-004	3.0200e-003	6.9000e-004	4.7000e-004	1.1600e-003	0.0000	9.9308	9.9308	7.0000e-005	0.0000	9.9323
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0678	0.6452	1.6100e-003	0.1352	1.0600e-003	0.1363	0.0360	9.8000e-004	0.0370	0.0000	113.9390	113.9390	5.8400e-003	0.0000	114.0616
Total	0.0479	0.1042	0.6797	1.7200e-003	0.1378	1.5700e-003	0.1393	0.0367	1.4500e-003	0.0381	0.0000	123.8698	123.8698	5.9100e-003	0.0000	123.9939

3.39 Exterior Finishes - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0685	0.5580	0.4525	6.2000e-004		0.0438	0.0438		0.0412	0.0412	0.0000	55.2247	55.2247	0.0131	0.0000	55.4994
Total	2.0949	0.5580	0.4525	6.2000e-004		0.0438	0.0438		0.0412	0.0412	0.0000	55.2247	55.2247	0.0131	0.0000	55.4994

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0900e-003	0.0364	0.0346	1.1000e-004	2.5100e-003	5.1000e-004	3.0200e-003	6.9000e-004	4.7000e-004	1.1600e-003	0.0000	9.9308	9.9308	7.0000e-005	0.0000	9.9323
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0678	0.6452	1.6100e-003	0.1352	1.0600e-003	0.1363	0.0360	9.8000e-004	0.0370	0.0000	113.9390	113.9390	5.8400e-003	0.0000	114.0616
Total	0.0479	0.1042	0.6797	1.7200e-003	0.1378	1.5700e-003	0.1393	0.0367	1.4500e-003	0.0381	0.0000	123.8698	123.8698	5.9100e-003	0.0000	123.9939

3.40 L5 Finishes - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8727	11.8727	1.1300e-003	0.0000	11.8963
Total	2.0403	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8727	11.8727	1.1300e-003	0.0000	11.8963

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0227	0.0216	7.0000e-005	1.5700e-003	3.2000e-004	1.8900e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1984	6.1984	5.0000e-005	0.0000	6.1994
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0335	0.0508	0.4832	1.2100e-003	0.1013	7.9000e-004	0.1021	0.0269	7.3000e-004	0.0277	0.0000	85.3396	85.3396	4.3700e-003	0.0000	85.4314
Total	0.0355	0.0735	0.5048	1.2800e-003	0.1029	1.1100e-003	0.1040	0.0274	1.0200e-003	0.0284	0.0000	91.5380	91.5380	4.4200e-003	0.0000	91.6308

3.40 L5 Finishes - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8726	11.8726	1.1300e-003	0.0000	11.8963
Total	2.0403	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8726	11.8726	1.1300e-003	0.0000	11.8963

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0227	0.0216	7.0000e-005	1.5700e-003	3.2000e-004	1.8900e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1984	6.1984	5.0000e-005	0.0000	6.1994
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0335	0.0508	0.4832	1.2100e-003	0.1013	7.9000e-004	0.1021	0.0269	7.3000e-004	0.0277	0.0000	85.3396	85.3396	4.3700e-003	0.0000	85.4314
Total	0.0355	0.0735	0.5048	1.2800e-003	0.1029	1.1100e-003	0.1040	0.0274	1.0200e-003	0.0284	0.0000	91.5380	91.5380	4.4200e-003	0.0000	91.6308

3.41 L6 Finishes - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8727	11.8727	1.1300e-003	0.0000	11.8963
Total	2.0403	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8727	11.8727	1.1300e-003	0.0000	11.8963

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0227	0.0216	7.0000e-005	1.5700e-003	3.2000e-004	1.8900e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1984	6.1984	5.0000e-005	0.0000	6.1994
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0335	0.0508	0.4832	1.2100e-003	0.1013	7.9000e-004	0.1021	0.0269	7.3000e-004	0.0277	0.0000	85.3396	85.3396	4.3700e-003	0.0000	85.4314
Total	0.0355	0.0735	0.5048	1.2800e-003	0.1029	1.1100e-003	0.1040	0.0274	1.0200e-003	0.0284	0.0000	91.5380	91.5380	4.4200e-003	0.0000	91.6308

3.41 L6 Finishes - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8726	11.8726	1.1300e-003	0.0000	11.8963
Total	2.0403	0.0933	0.0862	1.4000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	11.8726	11.8726	1.1300e-003	0.0000	11.8963

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0227	0.0216	7.0000e-005	1.5700e-003	3.2000e-004	1.8900e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1984	6.1984	5.0000e-005	0.0000	6.1994
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0335	0.0508	0.4832	1.2100e-003	0.1013	7.9000e-004	0.1021	0.0269	7.3000e-004	0.0277	0.0000	85.3396	85.3396	4.3700e-003	0.0000	85.4314
Total	0.0355	0.0735	0.5048	1.2800e-003	0.1029	1.1100e-003	0.1040	0.0274	1.0200e-003	0.0284	0.0000	91.5380	91.5380	4.4200e-003	0.0000	91.6308

3.42 Site Improvements - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0467	0.4793	0.4124	6.2000e-004		0.0280	0.0280		0.0258	0.0258	0.0000	55.9604	55.9604	0.0171	0.0000	56.3193
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0467	0.4793	0.4124	6.2000e-004		0.0280	0.0280		0.0258	0.0258	0.0000	55.9604	55.9604	0.0171	0.0000	56.3193

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0227	0.0216	7.0000e-005	1.5700e-003	3.2000e-004	1.8900e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1984	6.1984	5.0000e-005	0.0000	6.1994
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-003	4.2300e-003	0.0403	1.0000e-004	8.4400e-003	7.0000e-005	8.5100e-003	2.2500e-003	6.0000e-005	2.3100e-003	0.0000	7.1116	7.1116	3.6000e-004	0.0000	7.1193
Total	4.7300e-003	0.0270	0.0618	1.7000e-004	0.0100	3.9000e-004	0.0104	2.6800e-003	3.5000e-004	3.0300e-003	0.0000	13.3100	13.3100	4.1000e-004	0.0000	13.3187

3.42 Site Improvements - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0467	0.4793	0.4124	6.2000e-004		0.0280	0.0280		0.0258	0.0258	0.0000	55.9603	55.9603	0.0171	0.0000	56.3192
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0467	0.4793	0.4124	6.2000e-004		0.0280	0.0280		0.0258	0.0258	0.0000	55.9603	55.9603	0.0171	0.0000	56.3192

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0227	0.0216	7.0000e-005	1.5700e-003	3.2000e-004	1.8900e-003	4.3000e-004	2.9000e-004	7.2000e-004	0.0000	6.1984	6.1984	5.0000e-005	0.0000	6.1994
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-003	4.2300e-003	0.0403	1.0000e-004	8.4400e-003	7.0000e-005	8.5100e-003	2.2500e-003	6.0000e-005	2.3100e-003	0.0000	7.1116	7.1116	3.6000e-004	0.0000	7.1193
Total	4.7300e-003	0.0270	0.0618	1.7000e-004	0.0100	3.9000e-004	0.0104	2.6800e-003	3.5000e-004	3.0300e-003	0.0000	13.3100	13.3100	4.1000e-004	0.0000	13.3187

3.43 Commissioning Phase - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.0000e-003	9.5300e-003	2.0000e-005	2.0000e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.5000e-004	0.0000	1.6823	1.6823	9.0000e-005	0.0000	1.6841
Total	6.6000e-004	1.0000e-003	9.5300e-003	2.0000e-005	2.0000e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.5000e-004	0.0000	1.6823	1.6823	9.0000e-005	0.0000	1.6841

3.43 Commissioning Phase - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.0000e-003	9.5300e-003	2.0000e-005	2.0000e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.5000e-004	0.0000	1.6823	1.6823	9.0000e-005	0.0000	1.6841
Total	6.6000e-004	1.0000e-003	9.5300e-003	2.0000e-005	2.0000e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.5000e-004	0.0000	1.6823	1.6823	9.0000e-005	0.0000	1.6841

3.44 Testing Phase - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.0000e-003	9.5300e-003	2.0000e-005	2.0000e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.5000e-004	0.0000	1.6823	1.6823	9.0000e-005	0.0000	1.6841
Total	6.6000e-004	1.0000e-003	9.5300e-003	2.0000e-005	2.0000e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.5000e-004	0.0000	1.6823	1.6823	9.0000e-005	0.0000	1.6841

3.44 Testing Phase - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	1.0000e-003	9.5300e-003	2.0000e-005	2.0000e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.5000e-004	0.0000	1.6823	1.6823	9.0000e-005	0.0000	1.6841
Total	6.6000e-004	1.0000e-003	9.5300e-003	2.0000e-005	2.0000e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.5000e-004	0.0000	1.6823	1.6823	9.0000e-005	0.0000	1.6841

3.45 Final Inspection - 2018

Unmitigated Construction On-Site

[illegible]

Unmitigated Construction Off-Site

[illegible]

3.45 Final Inspection - 2018**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartment Mid Rise	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartment Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.542590	0.062129	0.167184	0.110637	0.030730	0.004573	0.019109	0.050292	0.001784	0.003671	0.005678	0.000201	0.001421

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

[illegible]

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

Mitigated

[illegible]

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4635	0.0227	1.9570	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	3.1815	3.1815	3.1300e-003	0.0000	3.2472
Unmitigated	1.4635	0.0227	1.9570	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	3.1815	3.1815	3.1300e-003	0.0000	3.2472

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1868					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0600	0.0227	1.9570	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	3.1815	3.1815	3.1300e-003	0.0000	3.2472
Total	1.4635	0.0227	1.9570	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	3.1815	3.1815	3.1300e-003	0.0000	3.2472

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1868					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0600	0.0227	1.9570	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	3.1815	3.1815	3.1300e-003	0.0000	3.2472
Total	1.4635	0.0227	1.9570	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	3.1815	3.1815	3.1300e-003	0.0000	3.2472

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation



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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

**Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review**

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.

B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist

California Certified Hydrogeologist

Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt’s responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt’s duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, *Oxygenates in Water: Critical Information and Research Needs*.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Colorado.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

JESSIE MARIE JAEGER



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SOIL WATER AIR PROTECTION ENTERPRISE

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EDUCATION

UNIVERSITY OF CALIFORNIA, LOS ANGELES B.S. CONSERVATION BIOLOGY & ENVIRONMENTAL SCIENCES JUNE 2014

PROJECT EXPERIENCE

SOIL WATER AIR PROTECTION ENTERPRISE

SANTA MONICA, CA

AIR QUALITY SPECIALIST

SENIOR ANALYST: CEQA ANALYSIS & MODELING

- Calculated roadway, stationary source, and cumulative impacts for risk and hazard analyses at proposed land use projects.
- Quantified criteria air pollutant and greenhouse gas emissions released during construction and operational activities of proposed land use projects using CalEEMod and EMFAC2011 emission factors.
- Utilized AERSCREEN, a screening dispersion model, to determine the ambient air concentrations at sensitive receptor locations.
- Organized presentations containing figures and tables comparing results of particulate matter analyses to CEQA thresholds.
- Prepared reports that discuss results of the health risk analyses conducted for several land use redevelopment projects.

SENIOR ANALYST: GREENHOUSE GAS MODELING AND DETERMINATION OF SIGNIFICANCE

- Quantified greenhouse gas (GHG) emissions of a "business as usual" scenario for proposed land use projects using CalEEMod.
- Determined compliance of proposed projects with AB 32 GHG reduction targets, with measures described in CARB's Scoping Plan for each land use sector, and with GHG significance thresholds recommended by various Air Quality Management Districts in California.
- Produced tables and figures that compare the results of the GHG analyses to applicable CEQA thresholds and reduction targets.

PROJECT MANAGER: OFF-GASSING OF FORMALDEHYDE FROM FLOORING PRODUCTS

- Determined the appropriate standard test methods to effectively measure formaldehyde emissions from flooring products.
- Compiled and analyzed laboratory testing data. Produced tables, charts, and graphs to exhibit emission levels.
- Compared finalized testing data to Proposition 65 No Significant Risk Level (NSRL) and to CARB's Phase 2 Standard.
- Prepared a final analytical report and organized supporting data for use as Expert testimony in environmental litigation.
- Participated in meetings with clients to discuss project strategy and identify solutions to achieve short and long term goals.

PROJECT ANALYST: EXPOSURE ASSESSMENT OF CONTAMINANTS EMITTED BY INCINERATOR

- Reviewed and organized sampling data, and determined the maximum levels of arsenic, dioxin, and lead in soil samples.
- Determined cumulative and hourly particulate deposition of incinerator and modeled particle dispersion locations using GIS and AERMOD.
- Conducted risk assessment using guidance set forth by the Office of Environmental Health Hazard Assessment (OEHHA).
- Utilized LeadSpread8 to evaluate exposure, and the potential adverse health effects from exposure, to lead in the environment.
- Compared final results of assessment to the Environmental Protection Agency's (EPA) Regional Screening Levels (RSLs).

ACCOMPLISHMENTS

- | | |
|---|------------------------------|
| • Recipient , Bruins Advantage Scholarship, University of California, Los Angeles | SEPT 2010 – JUNE 2014 |
| • Academic Honoree , Dean's List, University of California, Los Angeles | SEPT 2013 – JUNE 2014 |
| • Academic Wellness Director , UCLA Undergraduate Students Associated Council | SEPT 2013 – JUNE 2014 |
| • Student Groups Support Committee Member , UCLA Undergraduate Students Associated Council | SEPT 2012 – JUNE 2013 |

ATTACHMENT B



Memorandum

Date:	June 1, 2016
To:	Peterson Z. Vollmann, City of Oakland
From:	ICF International
Subject:	226 13th Street Project – Response to Comment Letter from Adams Broadwell Joseph & Cardozo

The CEQA Analysis for the 226 13th Street Project was published on May 16, 2016. This memorandum provides responses to the letter providing comments on the CEQA Analysis for the 226 13th Street Project (PLN15-320) prepared by Adams Broadwell Joseph & Cardozo dated May 31, 2016 (hereafter, "Adams Broadwell letter"), as well as the technical comments prepared by Matt Hagemann and Jessie Jaeger, which were attached to that letter (hereafter, "SWAPE letter"). The responses are organized into the following topics, which correspond with the topics in the Adams Broadwell letter:

- A) Consistency with the CEQA Addendum and Exemption Requirements
- B) Adequacy of the Project-Specific Health Risk from Diesel Particulate Matter (DPM) Analysis and Mitigation
- C) Adequacy of the Project-Specific Construction Emissions Analysis and Mitigation¹

Section A. Response to Comment Regarding the Consistency with the CEQA Addendum and Exemption Requirements

Section II. of the Adams Broadwell letter asserts that the City may not rely on previous environmental analysis for project approval. Specifically, the Adams Broadwell letter asserts that the project is not consistent with CEQA Addendum and Exemption requirements. Therefore, the project allegedly would result in new or more severe significant impacts than were analyzed in the Lake Merritt Station Area Plan Environmental Impact Report (LMSAP EIR).²

RESPONSE: The LMSAP EIR analyzed the environmental impacts of the adoption and implementation of the LMSAP at full build out and provided project-level review for reasonably foreseeable development, such as the project. The City Council certified the LMASP EIR in accordance with CEQA in November

¹ There are two portions of the Adams Broadwell letter that are labeled Section B. To avoid confusion, this section is referred to as Section C in this memorandum.

² The City of Oakland (City) certified an EIR for the LMSAP in November 2014, pursuant to CEQA. The LMSAP EIR can be obtained from the City of Oakland Bureau of Planning at 250 Frank H. Ogawa Plaza, Suite 2114, Oakland, California 94612, and/or located at <http://www2.oaklandnet.com/Government/o/PBN/OurServices/Application/DOWD009157>.

2014. There was no CEQA lawsuit challenging the certification of the LMSAP EIR and the analysis now is presumptively valid under California law. Since that certification, the City has created and relied upon a framework for analyzing projects within the LMSAP area called "CEQA Analysis," which separately and independently provides a basis for CEQA compliance. This framework relies on the following applicable streamlining/tiering and addendum sections of CEQA:

- Community Plan Exemption—CEQA Guidelines Section 15183, which allows streamlined environmental review for projects that are "consistent with the development density established by existing zoning, community plan or general plan policies for which an EIR was certified, except as might be necessary to examine whether there are project specific significant effects which are peculiar to the project or its site." Section 15183(c) specifies that "if an impact is not peculiar to the parcel or to the proposed project, has been addressed as a significant effect in the prior EIR, or can be substantially mitigated by the imposition of uniformly applied development policies or standards ... , then an EIR need not be prepared for the project solely on the basis of that impact."
- Qualified Infill Exemption—CEQA Guidelines Section 15183 .3 allows streamlining for certain qualified infill projects by limiting the topics subject to review at the project level, if the effects of infill development have been addressed in a planning level decision, or by uniformly applying development policies or standards. Infill projects are eligible if they are located in an urban area on a site that either has been previously developed or that adjoins existing qualified urban uses on at least 75 percent of the site's perimeter; satisfy the performance standards provided in CEQA Guidelines Appendix M; and are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy. No additional environmental review is required if the infill project would not cause any new specific effects or more significant effects, or if uniformly applicable development policies or standards would substantially mitigate such effects.
- Addendum—CEQA Guidelines Section 15164 states that an addendum to a certified EIR is allowed when minor changes or additions are necessary and none of the conditions for preparation of a subsequent EIR or Negative Declaration pursuant to Section 15162 are satisfied.

The City has relied upon this LMSAP CEQA Analysis framework since 2014 for at least two other projects so far (i.e. the project at 250 14th Street and the Hampton Inn Project at Franklin and 11th Street) in the LMSAP area, which was approved and went unchallenged. The City also has relied on this CEQA Analysis framework for the Broadway Valdez District Specific Plan area since 2014 and numerous projects have been approved and gone unchallenged (except for Adams Broadwell's recent appeal of the 2400 Valdez project). Therefore, not only is this the first comment letter of its kind on the City's CEQA Analysis for LMSAP projects, but the Adams Broadwell letter disregards the City's reliance on separate and independent bases for the project's CEQA compliance. As outlined in detail, the assumptions and conclusions in the project's CEQA Analysis are supported by substantial evidence in accordance with CEQA, while none of the assertions presented by the Adams Broadwell letter provide credible, persuasive, substantial evidence that the project would result in a new, peculiar, significant environmental impact or a substantial increase in the severity of an environmental impact than

determined in the LMSAP EIR. Therefore, the conclusions in the CEQA Analysis are valid and preparation of an EIR is not warranted.

The Adams Broadwell letter also claims that the Addendum determination is improper because it is too long, in excess of 2,000 pages.

The length of the CEQA Analysis is not relevant to a determination of whether or not an Addendum is appropriate. The only relevant test is whether any provisions of CEQA Section 15162 can be satisfied. As the CEQA Analysis shows, none of these provisions requiring preparation of a subsequent EIR or Negative Declaration apply to the project. While the Addendum may have been “long,” it merely documents the project’s consistency with the LMSAP EIR and fulfills CEQA’s primary function as a disclosure tool. Its length is primarily a result of the various air quality, GHG and transportation model runs and the document itself is only roughly 150 pages absent these model runs—which CEQA requires.

Section B. Response to Comment Regarding the Adequacy of the Project-Specific Health Risk from DPM Analysis and Mitigation

Section B. of the Adams Broadwell letter asserts that the CEQA Analysis fails to assess the health risk impacts from construction-related DPM emissions. The letter also states that the LMSAP EIR deferred the assessment of construction-related health risks to a stage where project-specific impacts and mitigation measures could be determined.

SUMMARY RESPONSE: The following provides a response to SWAPE’s comments regarding the need for a construction HRA:

- The LMSAP EIR disclosed that construction-related health risks would be less than significant with implementation of construction-related best management practices identified in SCA A of the LMSAP EIR. These measures are found in SCA AIR-1 in Attachment A of the CEQA Analysis.
- Project construction would not result in a more severe impact than what was disclosed in the LMSAP EIR.
- The LMSAP EIR does not stipulate that a stand-alone HRA is necessary for construction-related impacts.
- There are no additional feasible control measures beyond SCA AIR-1 available to further reduce construction-related diesel particulate matter emissions.
- Preparing an additional construction-related HRA would result in unnecessary and duplicative studies.
- The project complies with the streamlining/tiering provisions of CEQA.

DETAILED RESPONSE: Impact AIR-3 (construction health risks) was determined to be less than significant in the LMSAP EIR with implementation of SCA A (referred to as SCA AIR-1 in the CEQA Analysis). As stated on page 3.3-39 of the LMSAP EIR, “...SCA A would implement construction-related Best Management Practices to substantially reduce construction-related impacts to a less-than-significant level.”

Construction associated with the project (and other projects in the LMSAP area) would not result in a more severe impact than what was previously disclosed in the LMSAP EIR. Further, as discussed below,

there is no evidence that the project would have peculiar or unusual impacts or impacts that are new or more significant than previously analyzed in the LMSAP EIR. The construction health risk has been adequately addressed by the planning-level review and the project's conditions of approval. Furthermore, there is nothing in the LMSAP EIR indicating that a stand-alone health risk assessment for construction-related impacts is required on a project-by-project basis. Preparing a construction-related HRA would result in unnecessary and duplicative studies that would ultimately reach the same conclusions and control measures established in the LMSAP EIR.

As noted on page 3.3-39 of the LMSAP EIR, construction health risks would be minimized through application of SCA AIR-1, which indicates that diesel emissions would be minimized through the application of various measures. Specifically, subsections (g) and (h) of SCA AIR-1 minimize idling; subsection (i) ensures that construction equipment is running in proper condition; subsection (j) specifies that portable equipment would be powered by electricity if available; subsection (u) requires that equipment meet emissions and performance requirements; subsection (v) requires the use of low volatile organic compound coatings; subsection (w) requires that equipment and diesel trucks be equipped with Best Available Control Technology; and subsection (x) requires that off-road heavy diesel engines meet the California Air Resources Board's most recent certification standard. The project sponsor would ensure that construction equipment would meet Tier 4 emissions standards in order to comply with subsections (w) and (x); this equipment is considered the best available technology. Use of Tier 4 engines would reduce DPM emissions by approximately 90 percent to 95 percent, depending on the equipment horsepower, relative to Tier 2 engines, which is the current statewide average engine tier.

Beyond SCA AIR-1, according to ICF, there are no additional feasible control measures available to further reduce construction-related DPM emissions.

As stated on page 1-5 of the LMSAP EIR,

[t]he City intends to use the streamlining/tiering provisions of CEQA to the maximum feasible extent, so that future environmental review of specific projects are expeditiously undertaken without the need for repetition and redundancy, as provided in CEQA Guidelines section 15152 and elsewhere. Specifically, pursuant to CEQA Guidelines Section 15183, streamlined environmental review is allowed for projects that are consistent with the development density established by zoning, community plan, specific plan, or general plan policies for which an EIR was certified, unless such a project would have environmental impacts peculiar/unique to the project or the project site.

As discussed in Attachment C of the CEQA Analysis prepared for the project, the project is consistent with the land use designation for the site (Central Business District) and the zoning for the site (the north side of the site, fronting 14th Street, is zoned D-LM-2; the south side of the block, fronting 13th Street, is zoned D-LM-4). The intent of the D-LM-2 zone is to create areas for ground-level, pedestrian-oriented active storefront uses, with the upper stories intended for a wide range of office and residential uses. The intent of the D-LM-4 zone is to designate areas for a wide range of residential, commercial, and compatible light industrial uses. Because half of the site fronts onto 14th Street, it is located within the Plan's Commercial Corridor, which seeks to maintain and promote the existing pattern of continuous groundfloor commercial activities and facilities along the corridor. Because half of the site fronts onto 14th Street, it is located within the Plan's Commercial Corridor, which seeks to maintain and promote

the existing pattern of continuous ground-floor commercial activities and facilities along the corridor. The proposed project would be consistent with the purposes of these zoning districts and the Commercial Corridor, which are generally intended to create, maintain, and enhance areas of the LMSAP Plan Area for ground level, pedestrian-oriented, active storefront uses. Upper story spaces are intended to be available for a wide range of office and residential activities. The proposed project would develop ground-floor commercial retail space with upper level residential use. Therefore, based on the above, streamlined environmental review is allowed for the project.

More specifically, as discussed on pages 8 and 9 of the CEQA Analysis, the applicable CEQA streamlining and/or tiering code sections are:

- Public Resources Code Section 21166 and State CEQA Guidelines Sections 15162 and 15164 (Subsequent EIRs, Supplements and Addenda to an EIR or Negative Declaration), state that an addendum to a certified EIR is allowed when minor changes or additions are necessary, and none of the conditions for preparation of a subsequent EIR or Negative Declaration per Sections 15162 and 15164 are satisfied.
- Public Resources Code Section 21083.3 and State CEQA Guidelines Section 15183 (Projects Consistent with a Community Plan or Zoning), which allow streamlined environmental review for projects that are “consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, except as might be necessary to examine whether there are project-specific significant effects that are peculiar to the project or its site.”
- Public Resources Code Section 21094.5 and State CEQA Guidelines Section 15183.3 (Streamlining for Infill Projects) allow streamlining for certain qualified infill projects by limiting the topics that are subject to review at the project level, provided the effects of infill development have been addressed in a planning-level decision or by uniformly applicable development policies.
- State CEQA Guidelines Section 15168 (Program EIRs) and Section 15180 (Redevelopment Projects) provide that the 2011 Redevelopment Plan Amendments EIR can be used as a Program EIR in support of streamlining and/or tiering provisions under CEQA. The 2011 Redevelopment Plan Amendments EIR is a Program EIR for streamlining and/or tiering provisions by State CEQA Guidelines Section 15168. The section defines the “program EIR” as one prepared on a series of actions that can be characterized as one large project and are related geographically and by other shared characteristics. Section 15168 continues that “subsequent activities in the program EIR must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.” If the agency finds that, pursuant to State CEQA Guidelines Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR and no new environmental document would be required. Furthermore, State CEQA Guidelines Section 15180 specifies that if a certified redevelopment plan EIR is prepared, no subsequent EIRs are required for individual components of the redevelopment plan unless a subsequent EIR or supplement to the EIR would be required by Section 15162 or 15163.

Because the project is consistent with the CEQA streamlining provisions discussed above and the CEQA Analysis is appropriately tiered from the LMSAP EIR, no additional construction HRA is necessary and the control measures outlined in SCA AIR-1 represent all feasible mitigation.

The Adams Broadwell letter also asserts that the guidance set forth by the Office of Environmental Health Hazard Assessment (OEHHA), which recommends that all short term-projects lasting longer than two months be evaluated for cancer risks to nearby sensitive receptors, is applicable to the project.

RESPONSE: The Adams Broadwell letter incorrectly suggests that OEHHA's recommended methodology is a formal part of the BAAQMD's applicable guidance. In fact, the OEHHA has no binding authority on the project that would require a stand-alone construction HRA for the project. Regardless of the use of OEHHA's recommended methodology, which describes how an HRA should be conducted, a stand-alone construction HRA for the project is not required for the abovementioned reasons.

The Adams Broadwell letter, based on the screening-level health risk assessment included in the SWAPE letter, asserts that the project would result in previously undisclosed significant impacts.

RESPONSE: Impact AIR-3 (construction health risks) was determined to be less than significant in the LMSAP EIR with implementation of SCA AIR-1, which included the use of best available control technologies for all construction equipment, diesel trucks, and generators, as well as diesel engines that meet the California Air Resources Board's most recent certification standard, which are currently Tier 4. The LMSAP EIR was publically reviewed and the impact conclusions certified by the City. Consistent with CEQA Guidelines, the project tiers from the analysis completed for the LMSAP EIR and likewise concludes that construction-related health risks would be less than significant with implementation of SCA AIR-1. As noted above, the project sponsor would ensure that construction equipment would meet Tier 4 emissions standards in order to comply with subsections (w) and (x) of SCA AIR-1; this equipment is considered the best available technology. Use of Tier 4 engines would reduce DPM emissions by approximately 90percent to 95 percent, depending on the equipment horsepower, relative to Tier 2 engines, which is the current statewide average engine tier.

The Adams Broadwell letter, based on the list of mitigation measures in the SWAPE letter, lists mitigation measures that could be incorporated to reduce DPM exposure above and beyond SCA AIR-1 (SCA 19).

RESPONSE: Subsections (w) and (x) of SCA AIR-1 requires that equipment and diesel trucks be equipped with Best Available Control Technology and that off-road heavy diesel engines meet the California Air Resources Board's most recent certification standard. The project sponsor would ensure that construction equipment would meet Tier 4 emissions standards in order to comply with subsections (w) and (x); this equipment is considered the best available technology. Use of Tier 4 engines in all off-road equipment would meet or exceed reductions achieved by measures outlined by SWAPE (diesel particulate filters, ultra-low sulfur diesel fuel, and engine replacement).

Section C. Response to Comment Regarding the Adequacy of the Project-Specific Construction Emissions Analysis and Mitigation

The Adams Broadwell letter and the SWAPE letter assert that the air quality and GHG analysis used unsubstantiated input parameters to estimate project emissions.

SUMMARY RESPONSE: The following provides a response to SWAPE's comments regarding the GHG calculations in the CEQA Analysis:

- Construction emission were estimated using the project-specific assumptions provided by the project sponsor.
- Vehicle emission factors for the construction analysis were obtained from the ARB's EMFAC2014 model. The model outputs are provided as Attachment A to this memorandum.
- CalEEMod defaults were used as a surrogate for operational assumptions where project-specific details were unavailable.
- Use of CalEEMod defaults to inform emissions analysis is typical practice in the LMSAP area and accepted by the Bay Area Air Quality Management District (BAAQMD) when project-level details are unavailable.
- The GHG analysis relies on PG&Es forecasted carbon dioxide (CO₂) emission factor for 2019.
- The project does not exceed BAAQMD criteria pollutant thresholds during construction or operation and, therefore, additional mitigation is not required.
- The project does not meet the conditions outlined in the City's SCA 38 and, therefore, a GHG Reduction Plan is not required.

DETAILED RESPONSE: The Greenhouse Gases and Climate Change Screening Analysis prepared for the project by ICF is included as Appendix E-1 to the CEQA Analysis. Construction related criteria pollutant and GHG emissions were estimated using project-specific assumptions that were provided by the project applicant. Consistent with air district recommendations, the project-level assumptions was used in place of CalEEMod defaults since they represent the best available information for characterizing actual construction activities and associated emissions. The CalEEMod runs performed by SWAPE include additional equipment that vastly (and falsely) overstated the equipment of the project. For example, the architectural coating assumptions in SWAPE's CalEEMod run also overstate the actual square footage that would be coated. Page 23 of SWAPE's CalEEMod output indicates that 446,002 square feet of residential indoor space, 148,667 square feet of residential outdoor space, 136,935 square feet of non-residential indoor space, and 45,645 square feet of non-residential outdoor space would be coated (total of 777,249 square feet). The project would construct 220,248 square feet of residential space and 12,090 of non-residential space. Assuming a scaling factor for surface painting of 2.7 for residential construction and 2 for non-residential construction, and that 75 percent of the building square footage would be exterior and the remaining 25 percent interior,³ ICF calculates a total of 618,850 square feet for architectural coatings.⁴

The modeling assumptions, such as the amount of paving square footage, associated with the criteria air pollutant and GHG analysis were based on the best information from the project applicant available at the time the analysis was prepared. As stated on page 26 of the CEQA Analysis, a drill rig would be required during shoring and caissons. The need for a drill rig was determined subsequent to when the construction data and the criteria air pollutant and GHG analysis were developed. Accordingly, emissions have been recalculated to include a drill rig operating during Phase 3, Mass Excavation. Reactive organic gases (ROG) emissions associated with architectural coatings have also been added to

³ Refer to CalEEMod Users Guide, Appendix A, pages 15-16.

⁴ 148,667 square feet of residential indoor space, 446,002 square feet of residential outdoor space, 6,045 square feet of non-residential indoor space, and 18,135 square feet of non-residential outdoor space.

the analysis. The results of the analysis are provided in Table 1. As shown, emissions would not exceed BAAQMD thresholds of significance.

Operational emissions were estimated using vehicle trip generation rates developed by Fehr & Peers and CalEEMod defaults. Use of CalEEMod defaults to inform emissions analysis is typical practice in the LMSAP area and accepted by the BAAQMD when project-level details are unavailable. The CO₂ emissions intensity for electricity consumption was updated to reflect emissions benefits of the Renewables Portfolio Standard (RPS). The CO₂ emission factor was drawn from PG&E's *Greenhouse Gas Emission Factor: Guidance for PG&E Customers*.⁵ PG&E presents two options for using the guidance to inform emissions analyses for future years: utilize an average of the five most recent coefficients available or use the emission factor forecast from the California Public Utilities Commission (CPUC). ICF elected to use the later approach, and as such, incorporates the 2019 emission factor identified in PG&E's guidance, which is based on the CPUC forecast.⁶

The operational GHG emissions analysis indicates that project does not meet the conditions outlined in the City's SCA 38 and, therefore, a GHG Reduction Plan is not required.

The SWAPE letter includes an updated construction analysis that, according to SWAPE, demonstrates that the project would result in a significant impact related to volatile organic compounds (VOC).

SUMMARY RESPONSE: The following provides a response to SWAPE's comments regarding the GHG calculations in the CEQA Analysis:

- SWAPE's analysis incorrectly overstated the construction equipment to be used during construction of the project.
- The results in SWAPE's analysis grossly overstate construction-related emissions.
- The project does not exceed BAAQMD criteria pollutant thresholds during construction or operation and, therefore, additional mitigation is not required.

DETAILED RESPONSE: As noted above, the CalEEMod runs performed by SWAPE include additional equipment that vastly (and falsely) overstated the equipment to be used during construction of the project. The square footage assumed in the architectural coating phases also overestimates actual building space. Based on the updated emissions analysis performed by ICF that includes architectural coatings and drill rig emissions (shown above), construction-related emissions would not exceed any of BAAQMD's construction thresholds, and mitigation to reduce construction-related emissions is not necessary.

The Adams Broadwell letter, based on the list of mitigation measures in the SWAPE letter, lists mitigation measures that could be incorporated to reduce VOC emissions.

RESPONSE: Construction of the project would not exceed BAAQMD's ROG threshold, and as such, no mitigation is required. However, best management practices implemented pursuant to SCA AIR-1 would

⁵ Available here:

https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf.

⁶ PG&E's guidance provides a 2019 emission factor of 307 pounds per megawatt-hour, whereas the modeling uses 309 pounds per megawatt-hour.

reduce construction-related ROG emissions. Specifically, subsection (v) requires the use of low VOC (i.e., ROG) coatings. Additional requirements to use electric-powered equipment, best available control technology and engines meeting the most recent certification standard (e.g., Tier 4) would reduce exhaust-related ROG emissions.

TABLE 1
UNMITIGATED EMISSIONS FROM CONSTRUCTION (AVERAGE LBS PER DAY)*

Construction Year (phase)	ROG	NO _x	CO	PM10	PM2.5
Project					
Average Daily Construction Emissions	12.6	5.9	9.8	0.7	0.4
City of Oakland Thresholds	54	54	-	82	54
Significant (Yes or No)?	No	No	-	No	No

* Emissions are average daily pounds per day during the project's anticipated approximate 24-month construction period.

Attachment A

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County

Region: Alameda

Calendar Year: 2016, 2017, 2018

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	CalYr	VehClass	VMT	ROG_RUNEX	CO_RUNEX	NOx_RUNEX	CO2_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM2_5_RUNEX	PM2_5_PMTW	PM2_5_PMBW	SOx_RUNEX
Alameda	2016	LDA	21838872.07	0.028153967	1.088094928	0.107667748	316.4432184	0.001849217	0.008000002	0.036750011	0.001702908	0.002000001	0.015750005	0.003176859
Alameda	2016	LDA	208488.6785	0.043787975	0.389930257	0.320056455	309.4928503	0.028965782	0.008000002	0.036750011	0.027712735	0.002000001	0.015750005	0.00295461
Alameda	2016	LDT1	1846101.746	0.069040148	2.339853044	0.242983472	364.8518738	0.003310369	0.008000002	0.036750011	0.003052838	0.002000001	0.015750005	0.003681273
Alameda	2016	LDT1	2015.536977	0.226531923	1.310566339	1.376010053	399.3036913	0.178656358	0.008000002	0.036750011	0.170927763	0.002000001	0.015750005	0.003812
Alameda	2016	LDT2	7691876.014	0.030612911	1.258758094	0.162718787	422.1995167	0.001652689	0.008000002	0.036750011	0.001521801	0.002000001	0.015750005	0.004235285
Alameda	2016	LDT2	10229.86172	0.016666479	0.134446177	0.061570649	376.6299498	0.005937245	0.008000002	0.036750011	0.005680403	0.002000001	0.015750005	0.003595543
Alameda	2016	MDV	4559964.787	0.058026055	2.022038391	0.287797552	548.8931008	0.001902204	0.008000002	0.036750011	0.001752685	0.002000001	0.015750005	0.005512986
Alameda	2016	MDV	59042.70295	0.018086078	0.2199364856	0.078261339	497.2748408	0.009900361	0.008000002	0.036750011	0.009472076	0.002000001	0.015750005	0.004747294
Alameda	2017	LDA	22270741.14	0.023000913	0.956427105	0.094362069	308.6536463	0.001802068	0.008000002	0.036750011	0.0016585	0.002000001	0.015750005	0.00309685
Alameda	2017	LDA	222225.2608	0.038512439	0.356979308	0.269404336	301.0629031	0.024980801	0.008000002	0.036750011	0.023900142	0.002000001	0.015750005	0.002874133
Alameda	2017	LDT1	1823823.792	0.055424141	2.026928087	0.211837379	357.5872158	0.003040444	0.008000002	0.036750011	0.002801353	0.002000001	0.015750005	0.003603361
Alameda	2017	LDT1	1897.433546	0.215806857	1.246155913	1.302236072	393.6034646	0.170693891	0.008000002	0.036750011	0.162735704	0.002000001	0.015750005	0.003757583
Alameda	2017	LDT2	7837406.794	0.025647081	1.112780349	0.140787984	411.6732107	0.001647927	0.008000002	0.036750011	0.001516537	0.002000001	0.015750005	0.004112724
Alameda	2017	LDT2	11474.66511	0.016029878	0.132516595	0.054412074	369.3217329	0.005474822	0.008000002	0.036750011	0.005237984	0.002000001	0.015750005	0.003525774
Alameda	2017	MDV	4595336.852	0.053086593	1.876583669	0.260414494	538.2104141	0.001897967	0.008000002	0.036750011	0.00174841	0.002000001	0.015750005	0.005403874
Alameda	2017	MDV	66990.00511	0.018404243	0.215679746	0.068588519	485.7123699	0.0088023	0.008000002	0.036750011	0.008421516	0.002000001	0.015750005	0.004636911
Alameda	2018	LDA	22412837.21	0.018625242	0.842990127	0.082870129	300.6720942	0.00178505	0.008000002	0.036750011	0.00164196	0.002000001	0.015750005	0.003015239
Alameda	2018	LDA	233260.3212	0.03429458	0.330558341	0.227068832	292.9033727	0.021806858	0.008000002	0.036750011	0.020863503	0.002000001	0.015750005	0.002796237
Alameda	2018	LDT1	1780689.977	0.042555126	1.739044713	0.183542027	349.5317359	0.002816359	0.008000002	0.036750011	0.002592085	0.002000001	0.015750005	0.003517979
Alameda	2018	LDT1	1771.04029	0.2051191	1.18071097	1.225379904	387.0500096	0.161473308	0.008000002	0.036750011	0.154488044	0.002000001	0.015750005	0.003695019
Alameda	2018	LDT2	7892076.481	0.021846102	0.991628386	0.122398548	400.5088192	0.001669867	0.008000002	0.036750011	0.001536124	0.002000001	0.015750005	0.004014252
Alameda	2018	LDT2	12516.21895	0.015565313	0.131645129	0.048922501	361.7969406	0.005136042	0.008000002	0.036750011	0.004913859	0.002000001	0.015750005	0.003453938
Alameda	2018	MDV	4579851.577	0.048606922	1.742357628	0.235609794	526.7405762	0.001908884	0.008000002	0.036750011	0.001758124	0.002000001	0.015750005	0.005287098
Alameda	2018	MDV	73893.21732	0.015912801	0.214217548	0.061588506	474.6884123	0.008026443	0.008000002	0.036750011	0.007679222	0.002000001	0.015750005	0.00453167

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County

Region: Alameda

Calendar Year: 2016, 2017, 2018

Season: Annual

Vehicle Classification: EMFAC2013 Categories

Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	CalYr	VehClass	VMT	ROG_RUNEX	CO_RUNEX	NOx_RUNEX	CO2_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM2_5_RUNEX	PM2_5_PMTW	PM2_5_PMBW	SOx_RUNEX
Alameda	2016	T7 Single	80665.054	0.340033259	1.227877904	8.750287496	1737.004358	0.151850229	0.03600001	0.061740018	0.145281255	0.009000003	0.026460008	0.016571834
Alameda	2017	T7 Single	81977.555	0.138098092	0.868651813	7.263759252	1721.252357	0.091037122	0.03600001	0.061740018	0.087098896	0.009000003	0.026460008	0.016421552
Alameda	2018	T7 Single	83281.339	0.164245776	0.618568927	6.112097455	1705.096485	0.047886252	0.03600001	0.061740018	0.045814714	0.009000003	0.026460008	0.016267418

ATTACHMENT C



Technical Consultation, Data Analysis and
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July 1, 2016

Laura E. Horton
Adams Broadwell Joseph & Cardozo
601 Gateway Blvd., Suite 1000
South San Francisco, CA 94080

Subject: Response to Comments on the 226 13th Street Project (PLN 15-320)

Dear Ms. Horton:

We have reviewed the June 2016 Memorandum ("Memorandum"), which addressed comments that we made on the 226 13th Street Project ("Project") in a May 31, 2016 letter. The comment letter we prepared addressed deficiencies in the May 2016 CEQA Analysis ("CEQA Analysis") and associated attachments. After our review, we maintain that the CEQA Analysis falls well short in describing and mitigating the Project's Air Quality impacts. The Project should not be approved until an environmental impact report (EIR) is prepared that adequately evaluates and mitigates the Project's health and environmental risks.

Air Quality

In our May 31 letter, we concluded that the Project's CEQA Analysis failed to adequately evaluate the Project's Air Quality impacts because the Project's emissions were modeled using incorrect input parameters, and the CEQA Analysis failed to prepare a construction health risk assessment. Specifically, we state that the Project fails to provide complete construction and operational output files, uses an incorrect carbon dioxide intensity factor to estimate operational emissions, fails to provide supporting documents for the use of EMFAC2014 emission factors, fails to include grading, paving, and architectural coating equipment for the respective phases, underestimates the number of hauling truck trips for demolition and excavation, and fails to evaluate the increased cancer risk associated with diesel particulate matter ("DPM") emissions during construction. While the Memorandum, which includes responses to our comments on the CEQA Analysis, adequately responds to many of our comments, we still maintain that the Memorandum fails to address our concern regarding the construction health risk posed by the proposed Project.

Failure to Quantify Health Risk or Level of Mitigation

Our May 31 letter found that the CEQA Analysis fails to evaluate the health risk posed to nearby sensitive receptors from exposure to diesel particulate matter (DPM) emissions released during Project construction. The Memorandum attempts to address our concerns on this matter, stating:

"Construction associated with the project (and other projects in the LMSAP area) would not result in a more severe impact than what was previously disclosed in the LMSAP EIR. Further, as discussed below, there is no evidence that the project would have peculiar or unusual impacts or impacts that are new or more significant than previously analyzed in the LMSAP EIR. The construction health risk has been adequately addressed by the planning-level review and the project's conditions of approval. Furthermore, there is nothing in the LMSAP EIR indicating that a stand-alone health risk assessment for construction-related impacts is required on a project-by-project basis. Preparing a construction-related HRA would result in unnecessary and duplicative studies that would ultimately reach the same conclusions and control measures established in the LMSAP EIR.

As noted on page 3.3-39 of the LMSAP EIR, construction health risks would be minimized through application of SCA AIR-1, which indicates that diesel emissions would be minimized through the application of various measures. Specifically, subsections (g) and (h) of SCA AIR-1 minimize idling; subsection (i) ensures that construction equipment is running in proper condition; subsection (j) specifies that portable equipment would be powered by electricity if available; subsection (u) requires that equipment meet emissions and performance requirements; subsection (v) requires the use of low volatile organic compound coatings; subsection (w) requires that equipment and diesel trucks be equipped with Best Available Control Technology; and subsection (x) requires that off-road heavy diesel engines meet the California Air Resources Board's most recent certification standard. The project sponsor would ensure that construction equipment would meet Tier 4 emissions standards in order to comply with subsections (w) and (x); this equipment is considered the best available technology" (p. 3-4 of 10).

This justification, however, is inadequate. Although the Project would implement SCA AIR-1 to minimize the Project's health risks, without quantification of this risk, it is unclear how much the risk will be minimized, and is unclear if this risk will be reduced to a less-than-significant level once these mitigation measures are implemented. As a result, the risk should still be quantified to determine which measures must be applied to reduce the Project's construction-related DPM emissions and if the measures proposed under SCA AIR-1 will reduce emissions to levels that will not cause a significant impact. Both the CEQA Analysis and the Memorandum fail to actually evaluate the adequacy of the mitigation measures listed under SCA AIR-1. As a result, the Project's health risk assessment is incomplete, and should not be relied upon to determine Project significance.

Additionally, the measures proposed under SCA AIR-1 of the CEQA Analysis are presented in an exhaustive list and use ambiguous language stating that "the project applicant shall implement all of the

following applicable air pollution control measures during construction..." (pp. 96). There is no guarantee that all of the measures listed under SCA AIR-1 will be "applicable" to the proposed Project, as the CEQA Analysis fails to actually assess the feasibility of the measures proposed. As a result, the feasibility of each measure also needs to be assessed, and the health risk needs to still be quantified in order to determine what applicable measures can be implemented to reduce the construction health risk to a less than significant level and whether additional measures will be needed. We provided a detailed list of additional feasible mitigation measures in our May 31 letter that the City has failed to evaluate.

In fact, the statement that "The project sponsor would ensure that construction equipment would meet Tier 4 emissions standards in order to comply with [mitigation measure SCA AIR-1] subsections (w) and (x)" is questionable as the feasibility of using all Tier 4 equipment is unclear (p. 4 of 10). The Project Applicant makes no effort to actually demonstrate the feasibility of implementing this measure once the Project is approved.

The California Air Resources Board does not require that off-road construction fleets be comprised solely of Tier 4 Final engines. Furthermore, even just based on availability, the City has failed to demonstrate that all of the construction equipment utilized for the Project will have Tier 4 engines and the mitigation measure does not specifically require all Tier 4 equipment during construction. Unlike SCA AIR-1, SCA AIR-2 specifically calls for Tier 4 to reduce operational impacts, but even then the measure merely requires Tier 4 "if feasible" (p. A-6 of the CEQA Analysis). The United States Environmental Protection Agency's (USEPA) 1998 nonroad engine emission standards were structured as a three-tiered progression. Tier 1 standards were phased-in from 1996 to 2000 and Tier 2 emission standards were phased in from 2001 to 2006. Tier 3 standards, which applied to engines from 37-560 kilowatts (kW) only, were phased in from 2006 to 2008. The Tier 4 emission standards were introduced in 2004, and were phased in from 2008 – 2015.¹ These tiered emission standards, however, are only applicable to newly manufactured nonroad equipment. According to the United States Environmental Protection Agency (USEPA) "if products were built before EPA emission standards started to apply, they are generally not affected by the standards or other regulatory requirements."² Therefore, pieces of equipment manufactured prior to 2000 are not required to adhere to Tier 2 emission standards, and pieces of equipment manufactured prior to 2008 are not required to adhere to Tier 4 emission standards. Construction equipment often lasts more than 30 years; as a result, Tier 1 equipment and non-certified equipment are currently still in use.³ It is estimated that of the two million diesel engines

¹ Emission Standards, Nonroad Diesel Engines, *available at*:

<https://www.dieselnet.com/standards/us/nonroad.php#tier3>

² "Frequently Asked Questions from Owners and Operators of Nonroad Engines, Vehicles, and Equipment Certified to EPA Standards." United States Environmental Protection Agency, August 2012. *Available at*:

<http://www.epa.gov/oms/highway-diesel/regs/420f12053.pdf>

³ "Best Practices for Clean Diesel Construction." Northeast Diesel Collaborative, August 2012. *Available at*:

<http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf>

currently used in construction, 31 percent were manufactured before the introduction of emissions regulations.⁴

Furthermore, in a 2010 white paper, the California Industry Air Quality Coalition estimated that approximately 7% and less than 1% of all off-road heavy duty diesel equipment in California was equipped with Tier 2 and Tier 3 engines, respectively.⁵ It goes on to explain that “cleaner burning Tier 4 engines...are not expected to come online in significant numbers until 2014.” Given that significant production activities have only just begun within the last couple of years, it can be presumed that there is limited availability of Tier 4 equipment. Furthermore, due to the complexity of Tier 4 engines, it is very difficult if not nearly impossible, to retrofit older model machinery with this technology.⁶ Therefore, available off-road machinery equipped with Tier 4 engines are most likely new.

It should be noted that there are regulations, currently enforced by the California Air Resources Board (CARB), with regards to construction fleets. According to CARB, large and medium fleets (fleets with over 2,500 horse power) will not be allowed to add a vehicle with a Tier 1 engine to its fleet starting on January 1, 2014. The engine tier must be Tier 2 or higher.⁷ Therefore, construction equipment fleets typically include a mix of Tier 2, 3, and 4 engines, rather than just Tier 4 Final equipment exclusively. Without a condition specifically requiring all Tier 4 engines and a detailed analysis regarding the feasibility of such a measure, the City has failed to adequately demonstrate that all of the Project’s construction equipment would meet Tier 4 standards. As a result, SCA AIR-1 should not be relied upon to reduce the Project’s construction health risk to below levels of significance.

Therefore, we assert both now and in our original May 31 letter, that the construction-related health risk and the emission reductions achieved by the mitigation measures proposed under SCA AIR-1 should be quantified to determine which measures must be applied to reduce DPM emissions and whether the measures proposed under SCA AIR-1 will be sufficient at reducing DPM emissions to levels that will not cause a significant health risk impact. Furthermore, we assert that the feasibility of implementing a construction fleet consisting solely of Tier 4 equipment should be evaluated before the City can rely upon such a measure to reduce the Project's construction related health risk. Before the Project is approved, an updated health risk assessment should be prepared, and a detailed evaluation of the mitigation measures proposed under SCA AIR-1, and any additional measures not included in SCA AIR-1 proposed in our comments, should be provided.

⁴ Northeast Diesel Collaborative Clean Construction Workgroup, *available at*:

<http://northeastdiesel.org/construction.html>

⁵ "White Paper: An Industry Perspective on the California Air Resources Board Proposed Off-Road Diesel Regulations." Construction Industry Air Quality Coalition, *available at*: http://www.agc-ca.org/uploadedFiles/Member_Services/Regulatory-Advocacy-Page-PDFs/White_Paper_CARB_OffRoad.pdf

⁶ "Tier 4- How it will affect your equipment, your business and your environment." Milton CAT, *available at*: <http://www.miltoncat.com/News/Documents/Articles/For%20the%20Trenches%20-%20Tier%204.pdf>

⁷ "Enforcement of the In-Use Off-Road Vehicle Regulations." California Air Resources Board, February 2014, *available at*: <http://www.arb.ca.gov/msprog/mailouts/msc1401/msc1401.pdf>

Sincerely,

A handwritten signature in blue ink, appearing to read "M Hagemann", with a long horizontal flourish extending to the right.

Matt Hagemann, P.G., C.Hg.

A handwritten signature in black ink, appearing to read "JJ", with a long horizontal flourish extending to the right.

Jessie Jaeger



CITY OF OAKLAND
APPEAL FORM
FOR DECISION TO PLANNING COMMISSION, CITY
COUNCIL OR HEARING OFFICER

PROJECT INFORMATION

Case No. of Appealed Project: PLN15-320
Project Address of Appealed Project: 226 13th Street
Assigned Case Planner/City Staff: Peterson Z. Vollmann

APPELLANT INFORMATION:

Printed Name: Laura Horton Phone Number: 650-589-1660
Mailing Address: 601 Gateway Blvd., Suite 1000 Alternate Contact Number: _____
City/Zip Code S. San Francisco, 94080 Representing: Oakland Residents for Responsible Development
Email: lhorton@adamsbroadwell.com

An appeal is hereby submitted on:

- ☐ **AN ADMINISTRATIVE DECISION (APPEALABLE TO THE CITY PLANNING COMMISSION OR HEARING OFFICER)**

YOU MUST INDICATE ALL THAT APPLY:

- ☐ Approving an application on an Administrative Decision
- ☐ Denying an application for an Administrative Decision
- ☐ Administrative Determination or Interpretation by the Zoning Administrator
- ☐ Other (please specify) _____

Please identify the specific Administrative Decision/Determination Upon Which Your Appeal is Based Pursuant to the Oakland Municipal and Planning Codes listed below:

- ☐ Administrative Determination or Interpretation (OPC Sec. 17.132.020)
- ☐ Determination of General Plan Conformity (OPC Sec. 17.01.080)
- ☐ Design Review (OPC Sec. 17.136.080)
- ☐ Small Project Design Review (OPC Sec. 17.136.130)
- ☐ Minor Conditional Use Permit (OPC Sec. 17.134.060)
- ☐ Minor Variance (OPC Sec. 17.148.060)
- ☐ Tentative Parcel Map (OMC Section 16.304.100)
- ☐ Certain Environmental Determinations (OPC Sec. 17.158.220)
- ☐ Creek Protection Permit (OMC Sec. 13.16.450)
- ☐ Creek Determination (OMC Sec. 13.16.460)
- ☐ City Planner's determination regarding a revocation hearing (OPC Sec. 17.152.080)
- ☐ Hearing Officer's revocation/impose or amend conditions (OPC Sec. 17.152.150 &/or 17.156.160)
- ☐ Other (please specify) _____

(Continued on reverse)

(Continued)

☒ **A DECISION OF THE CITY PLANNING COMMISSION (APPEALABLE TO THE CITY COUNCIL)** ☒ Granting an application to: **OR** ☐ Denying an application to:

YOU MUST INDICATE ALL THAT APPLY:

Pursuant to the Oakland Municipal and Planning Codes listed below:

- ☒ Major Conditional Use Permit (OPC Sec. 17.134.070)
- ☐ Major Variance (OPC Sec. 17.148.070)
- ☒ Design Review (OPC Sec. 17.136.090)
- ☒ Tentative Map (OMC Sec. 16.32.090)
- ☐ Planned Unit Development (OPC Sec. 17.140.070)
- ☐ Environmental Impact Report Certification (OPC Sec. 17.158.220F)
- ☐ Rezoning, Landmark Designation, Development Control Map, Law Change (OPC Sec. 17.144.070)
- ☐ Revocation/impose or amend conditions (OPC Sec. 17.152.160)
- ☐ Revocation of Deemed Approved Status (OPC Sec. 17.156.170)
- ☒ Other (please specify) CEQA Findings, Minor CUP, Minor Variance

FOR ANY APPEAL: An appeal in accordance with the sections of the Oakland Municipal and Planning Codes listed above shall state specifically wherein it is claimed there was an error or abuse of discretion by the Zoning Administrator, other administrative decisionmaker or Commission (Advisory Agency) or wherein their/its decision is not supported by substantial evidence in the record, or in the case of Rezoning, Landmark Designation, Development Control Map, or Law Change by the Commission, shall state specifically wherein it is claimed the Commission erred in its decision. The appeal must be accompanied by the required fee pursuant to the City's Master Fee Schedule.

You must raise each and every issue you wish to appeal on this Appeal Form (or attached additional sheets). Failure to raise each and every issue you wish to challenge/appeal on this Appeal Form (or attached additional sheets), and provide supporting documentation along with this Appeal Form, may preclude you from raising such issues during your appeal and/or in court. However, the appeal will be limited to issues and/or evidence presented to the decision-maker prior to the close of the public hearing/comment period on the matter.

The appeal is based on the following: *(Attach additional sheets as needed.)*

Please see attached.

Supporting Evidence or Documents Attached. *(The appellant must submit all supporting evidence along with this Appeal Form; however, the appeal will be limited evidence presented to the decision-maker prior to the close of the public hearing/comment period on the matter.)*

(Continued on reverse)

(Continued)



Signature of Appellant or Representative of
Appealing Organization

7/1/16

Date

TO BE COMPLETED BY STAFF BASED ON APPEAL TYPE AND APPLICABLE FEE

APPEAL FEE: \$ _____

Fees are subject to change without prior notice. The fees charged will be those that are in effect at the time of application submittal. All fees are due at submittal of application.

Date/Time Received Stamp Below:

Below For Staff Use Only

Cashier's Receipt Stamp Below:

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1,891.09

AUTHORIZED SIGNATURE

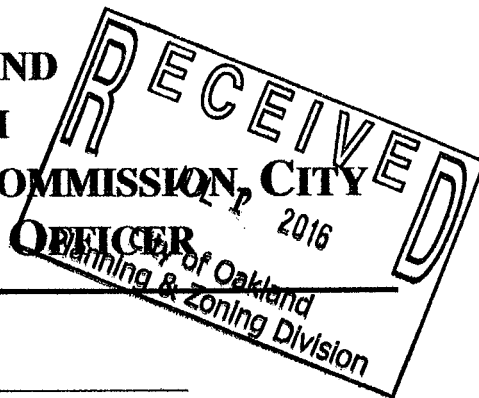
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Security Features Included:



**CITY OF OAKLAND
APPEAL FORM
FOR DECISION TO PLANNING COMMISSION, CITY
COUNCIL OR HEARING OFFICER**



PROJECT INFORMATION

Case No. of Appealed Project: PLN15-320

Project Address of Appealed Project: 226 13th Street

Assigned Case Planner/City Staff: Peterson Vollmann

APPELLANT INFORMATION:

Printed Name: Eric Arnold (Representative)

Phone Number: 510.681.8213

Mailing Address: 1431 Jackson St. #510

Alternate Contact Number: 510.292.1562

City/Zip Code Oakland, CA 94612

Representing: Community Coalition of Over 12 Organizations,

Email: escribe68@gmail.com

Stakeholders & Hundreds of Oakland Residents

Copy Info to Attorney: Hasmik Geghamyan, 415-857-5548

geghamyanlaw@gmail.com & lailan.huen@gmail.com

An appeal is hereby submitted on:

- ☐ **AN ADMINISTRATIVE DECISION (APPEALABLE TO THE CITY PLANNING COMMISSION OR HEARING OFFICER)**

YOU MUST INDICATE ALL THAT APPLY:

- ☐ Approving an application on an Administrative Decision
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- ☐ Other (please specify) _____

(Continued on reverse)

(Continued)

- ☒ **A DECISION OF THE CITY PLANNING COMMISSION (APPEALABLE TO THE CITY COUNCIL)** ☒ Granting an application to: **Wood Partners** **OR** ☐ Denying an application to:

YOU MUST INDICATE ALL THAT APPLY:

Pursuant to the Oakland Municipal and Planning Codes listed below:

- ☒ Major Conditional Use Permit (OPC Sec. 17.134.070)
- ☐ Major Variance (OPC Sec. 17.148.070)
- ☒ Design Review (OPC Sec. 17.136.090)
- ☐ Tentative Map (OMC Sec. 16.32.090)
- ☒ Planned Unit Development (OPC Sec. 17.140.070)
- ☐ Environmental Impact Report Certification (OPC Sec. 17.158.220F)
- ☐ Rezoning, Landmark Designation, Development Control Map, Law Change (OPC Sec. 17.144.070)
- ☒ Revocation/impose or amend conditions (OPC Sec. 17.152.160)
- ☐ Revocation of Deemed Approved Status (OPC Sec. 17.156.170)
- ☒ Other (please specify) See attached appeal.

FOR ANY APPEAL: An appeal in accordance with the sections of the Oakland Municipal and Planning Codes listed above shall state specifically wherein it is claimed there was an error or abuse of discretion by the Zoning Administrator, other administrative decisionmaker or Commission (Advisory Agency) or wherein their/its decision is not supported by substantial evidence in the record, or in the case of Rezoning, Landmark Designation, Development Control Map, or Law Change by the Commission, shall state specifically wherein it is claimed the Commission erred in its decision. The appeal must be accompanied by the required fee pursuant to the City's Master Fee Schedule.

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The appeal is based on the following: *(Attach additional sheets as needed.)*

Please see attached appeal.

Supporting Evidence or Documents Attached. *(The appellant must submit all supporting evidence along with this Appeal Form; however, the appeal will be limited evidence presented to the decision-maker prior to the close of the public hearing/comment period on the matter.)*

(Continued on reverse)

(Continued)

Sailor D. Iyer

Signature of Appellant or Representative of
Appealing Organization

7/1/16

Date

TO BE COMPLETED BY STAFF BASED ON APPEAL TYPE AND APPLICABLE FEE

APPEAL FEE: \$ _____

Fees are subject to change without prior notice. The fees charged will be those that are in effect at the time of application submittal. All fees are due at submittal of application.

Below For Staff Use Only

Date/Time Received Stamp Below:

Cashier's Receipt Stamp Below:

Community Coalition Appeal to the Oakland City Council

Project Address: 226 13th Street, Wood Partners, Brian Pianca

Appealed & Prepared by: A Coalition of Neighborhood Stakeholders from the #SupportMalonga Coalition, Malonga Arts Collective, Chinatown Advocates, the Black Arts Movement Business District, and Hundreds of Residents in the Area

Date: July 1, 2016

Dear Oakland City Council, Mayor Libby Schaaf and City Administrator Sabrina Landreth,

On behalf of hundreds of residents and community organizations of Oakland concerned about the proposed development at 226 13th Street by Wood Partners, we urge you to take into consideration and correct the following violations based on the Lake Merritt Station Area Plan (LMSAP) regulations, LMSAP District Zone Regulations, Conditional Use Permit requirements, Regional Housing Needs Allocation (RHNA) from the Association of Bay Area Governments (ABAG), Planning Department's Mission Statement, Fair Housing Act, and Oakland's Analysis of Impediments to Fair Housing. Proper public process is required to ensure that sufficient community needs are met for the long-term health of this neighborhood, the Malonga Casquelourd Center for the Arts, the Black Arts Movement Business District, Chinatown, and our city. We request that the City, Wood Partners, the Community Coalition enter into a Memorandum of Understanding (MOU) based on the following requests:

Brief Summary

This 262 unit all market-rate luxury housing development is planned to sit in the middle of the Black Arts Movement Business District, without equitable access for long-time existing residents and small businesses who are currently being displaced from their homes in Oakland at alarming rates, with disparate impact on low-income people of color and families with children. This large project requiring a Major Conditional Use permit has had insufficient community engagement for a development that will occupy an entire block in a highly visible location in the middle of our neighborhood. This process was not conducted with *appropriate community involvement* as stated in the Planning Department's Official Goals, and in fact, was conducted with errors to the public and planning process.

Timeline of Events and Violations

- 1. Insufficient Neighborhood Outreach from January-May 2016, and Violation of Public Process and Trust by Planning Commission to Approve Project without Sufficient Anti-Displacement and Anti-Discrimination Mitigations in place.**

For a project of significant size, insignificant neighborhood outreach was conducted by either the Planning Department or Wood Partners to mitigate negative environmental and functional impacts to residents and small businesses in the area. At least four months were spent focused on displacement of herons and trees on the site, but little time was spent meaningfully engaging critical stakeholders in the Black Arts Movement Business District, the Malonga Center for the Arts community, or Chinatown on the transformation of their neighborhood. Wood Partners only met with these stakeholders to begin mediating concerns the day before the Planning Commission review meeting on June 1st, 2016. In fact, Staff Planner Peterson Vollmann raised as the only major issue in his June 1st staff report the problem of heron displacement, completely disregarding major concerns raised by community stakeholders during public processes, violating public process and public trust. Even though these community stakeholders raised concerns about this proposed development in letters to the Staff Planner Peterson Vollmann and Planning Commissioners in December 2015 and at the February 3rd Planning Commission meeting, and contacted city officials to be kept abreast of the timeline and progress of the Wood Partners application as early as February and April [*Exhibit A*], these community stakeholders only found out about the Planning Commission Review and were put in touch with Wood Partners right at the point of 17-day required notice before the June 1st Planning Commission meeting, and the concerns were not included in Mr. Vollmann's staff report. These 17 days are far insufficient for the appropriate community involvement stated in the Planning Department's official goals. Even though over 25 community stakeholders, mostly low-income people of color, spoke at the June 22nd Special Planning Commission meeting stating that there were not yet sufficient anti-displacement and anti-discrimination mitigations in place in a Community Benefits Agreement and urging the Planning Commission to allow time to finalize an agreement between the community and Wood Partners, the Planning Commission, with a large majority of white upper-class residents not reflective of Oakland's population, approved the project completely disregarding these concerns, which constitutes a violation of public trust and process.

2. Notice Requirements under Major Conditional Use Permits, Section 17.134.040A of the Oakland Planning Code were not followed.

Notification procedures per Section 17.134.040 require that "An application for a major conditional use permit shall be considered by the City Planning Commission which shall hold a public hearing on the application. Notice of the hearing shall be given by posting an enlarged notice on the premises of the subject property involved in the application. All such notices shall be given not less than seventeen (17) days prior to the date set for the hearing." The June 22nd Special Planning Commission meeting where the development was approved was not properly noticed to the neighborhood and stakeholders in the area. As of June 17th, the notice on site did not contain the updated date of the review, opportunity for public comment, and decision of approval on this project [*Exhibit B*].

3. Wood Partners' proposal does not meet the City of Oakland's Lake Merritt Specific Area Plan targets, goals and guidelines adopted by the City Council in December 2014. The current proposal does not "embrace equity to

residents” or “promote quality affordable housing citywide” as stated in the City of Oakland Planning Department’s Mission Statement.

As the current Planning Department process does not allow for sufficient community engagement, we rely on the extensive 6-year public process conducted by Planning Staff from 2009 to 2014 to create the Lake Merritt Station Area Plan, which did engage multiple stakeholders in this area to determine appropriate zoning and community needs to prevent displacement of low-income families.

The June 1st staff report states that the developer’s proposal is “consistent with” and “conforms” to the Lake Merritt Station Area Plan (LMSAP) multiple times. However, there are numerous ways that the proposed development *in fact and evidence does not conform* to the Lake Merritt Station Area Plan:

The Lake Merritt Station Area Plan denotes numerous strategies for meeting the affordable housing crisis in this area [Section 4.5]: *“Affordable housing is a critical component of a sustainable neighborhood and is needed in the Planning Area. As of 2009, median household income for the average 1.94 person household in the one-half mile radius of the Lake Merritt BART Station was \$27,786 compared with the citywide median income (AMI) of \$49,481. In Planning Area census tracts, 45 percent of residents are cost burdened and may have trouble affording basic necessities after paying rent. Therefore, it is imperative that a strategy is in place to ensure affordable housing is available to all existing and future residents, especially since having affordable rents targeted to 30 percent of household income both stabilizes low income residents and provides these households with expendable income for other living and recreating expenses. Affordable housing is needed in the Planning Area to ensure that the area’s unique character, which includes a range of income levels accommodating people of color, recent immigrants, young professionals, families and socially connected seniors, is preserved and enhanced. Approximately 32.5 percent of the one-half mile radius population has a median household income of less than \$15,000. The market will continue producing housing that is well beyond the financial capacity of current area residents, demonstrating a strong need for affordable housing in the Planning Area. In addition, although the majority of households in the one-half mile radius are single-person households, 21.8 percent of the households are three-person or more households. This indicates that housing units in the Planning Area will have to accommodate a variety of household types including single-person, families with children and multi-generational households.”* The proposed 12 out of 262 units with 3 bedrooms hardly meets the need of the surrounding area as clearly defined by the LMSAP, and does not provide equitable fair housing access for families with children or multi-generational households, or the disproportionate numbers of people of color who are low-income and are currently being uprooted from their long-time neighborhoods and communities. The lack of affordable family housing is hurting our public schools, precluding families with children from sending their kids to Oakland public schools, which perpetuates a cycle of disparate impact and discrimination for low-income communities of color who have suffered centuries of inequitable public investment from public schools, which leads to economic inequality defined largely by race. Providing equitable access to affordable

housing for families with children and people of color is one goal of the Affirmatively Furthering Fair Housing Rule released in 2015 (Title VIII of the Civil Rights Act of 1968, 42 U.S.C. 3608 and Executive Order 12892).

4. The City of Oakland is mandated to plan 14,765 new housing units under RHNA and State Law.

The LMSAP states [4-20]: “California Department of Housing and Community Development determines the amount of housing needed for income groups in each region based on existing housing need and expected population growth. Each city’s share of the regional housing demand is prepared by the Association of Bay Area Governments (ABAG) through the Regional Housing Needs Allocation (RHNA) process. During the planning period 2014-2022, the City of Oakland must plan for 14,765 new housing units (28 percent of these units are designated to be affordable to very low- and low-income households, 19 percent affordable to moderate income and 53 percent above moderate income). The City’s responsibility under state law in accommodating its regional housing need is to identify sites adequately zoned (at least 30 units per acre) with appropriate infrastructure to support the development of housing. In addition to **state law mandating** that the City identify sites to accommodate its RHNA, state Redevelopment Law requires that 15 percent of new units built in a project area be made affordable to low and moderate income households. Despite the uncertainty surrounding Redevelopment Law affordable housing mandates, the Planning Area will target 15 percent of new units built in the Planning Area for low and moderate income households.” The added value from the large size of this project and reducing parking ratios through Major Conditional Use Permit can help subsidize and finance the target affordable housing units as called for as a critical need in the LMSAP.

5. The Affordable Housing Goals through LMSAP were not encouraged in the Staff Planners’ reports nor raised by Planning Commissioners in Public Review of the Development, in violation of the LMSAP.

The LMSAP reiterates the Affordable Housing Goals, including [4-22]: “Encourage between 15 percent to 28 percent of all new housing units in the Planning Area to be affordable including *both units in mixed income developments* and units in 100 percent affordable housing developments.” And “Encourage development of *family housing* (i.e., larger than 2 bedroom units).” There are multiple strategies laid out in the LMSAP to encourage and incentivize developers to include affordable housing in their projects to meet the city’s affordability and inclusivity goals. Neither of these goals or strategies were encouraged by staff planners in their reports, nor were these goals used by Planning Commissioners in public review of the development to attempt to meet the LMSAP’s goals, in violation of the LMSAP. This does not constitute proactive attempts to prevent housing segregation and mitigate disproportionate rates of displacement.

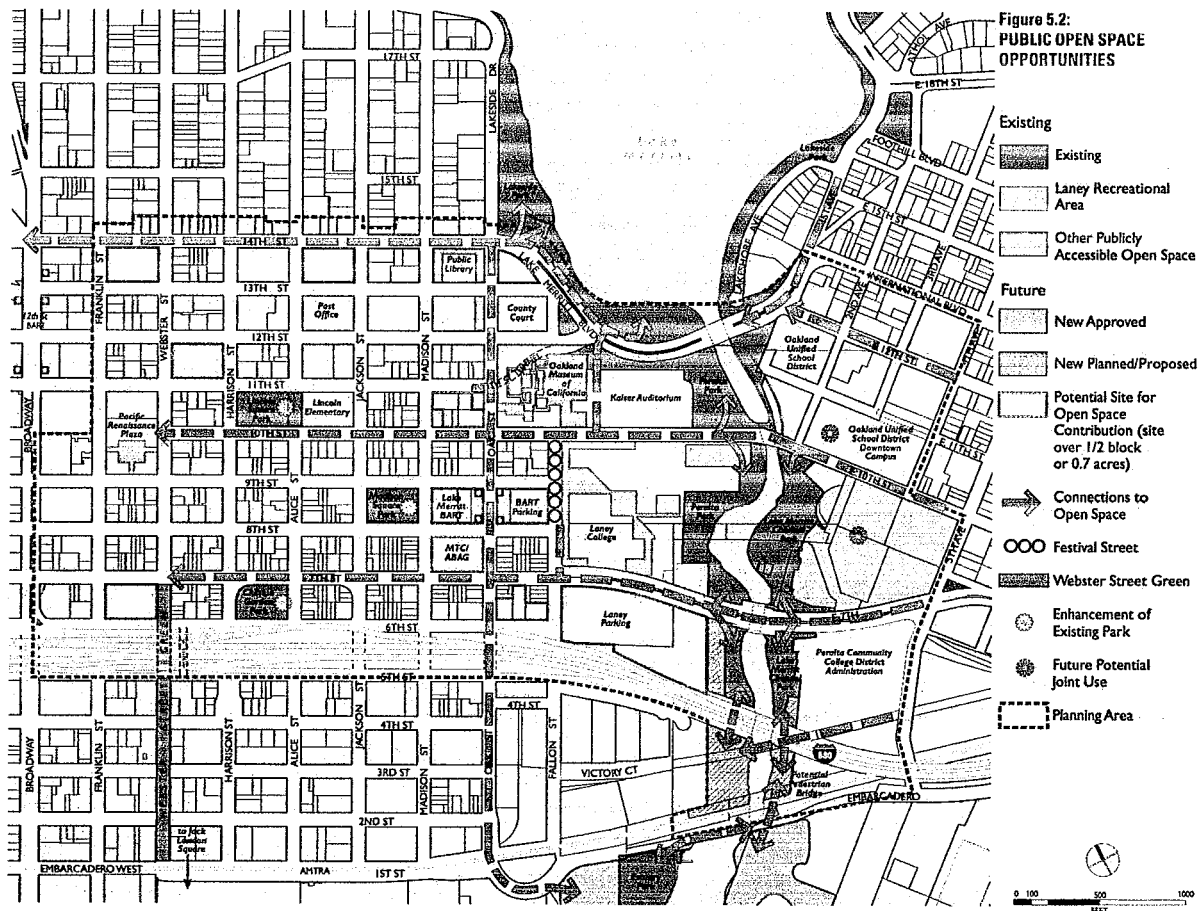
6. The Staff Planner and Developer did not follow the LMSAP guideline to include publicly accessible open space in any development larger than half a block as designated by the Lake Merritt Station Area Plan Section 5-12. In

fact, this very site was identified as an opportunity site for open space contribution, and yet the Developer was not aware of this guideline, in violation of Section 1.2 of the Lake Merritt Station Area Plan that requires all new development to follow the guidelines set forth in the plan.

The LMSAP Section 5-12 states explicitly:

The Station Area Plan recommends that all new development over half a block in size provide on-site, publicly accessible open space amounting to 10 percent of the total site area. These sites are shown in Figure 5.2. This could apply to all types of development, not only residential... This would help achieve OSCAR Policy OS-11.2 to "create new civic open spaces at BART stations ... and in other areas where high intensity redevelopment is proposed."

Figure 5.2 shows this site as one of the few prime locations for public open space contribution, and yet there was no mention of it in the development process, in violation of the LMSAP:



The Wood Partners proposal is designed to exclude public access to open space provided in an interior courtyard and luxury rooftop deck. Brian Pianca, lead developer on the project for Wood Partners, admitted at a meeting with community stakeholders on May

19, 2016 that he had never heard of the LMSAP guideline and recommendation to include publicly accessible open space in any development over half a block, proving that in fact the development of this site was not guided by the LMSAP as required by the LMSAP. Wood Partners has refused to make these spaces available to the community even on a limited basis, and is resistant to make an in-lieu contribution to public open space in the neighborhood as mitigation.

7. The LMSAP did not guide this development, project review, or decision-making by policymakers such as the Planning Commission as required by Section 1.2 of the Lake Merritt Station Area Plan.

We believe the staff planner “cherry-picked” 3 elements by which the proposal conformed to the LMSAP, but did not reveal the elements by which the proposal *did not* conform to the LMSAP, which we believe is a deception to the public, constituting in an error and indiscretion based upon the value that city staff should be factual, honest, comprehensive and balanced in their reviews, reports and assessments without omitting important information for public review. This is also a violation of public process and trust, as multiple years, many hours, and much energy was exerted by the community to provide input for the development of the LMSAP, which is clearly not being used to guide development in the plan area as required by the LMSAP.

Section 1.2 of the LMSAP states: “These documents establish the basis for development project review and other decision-making by policymakers, such as the Planning Commission and the City Council... The Plan will guide all new development in the Planning Area, which will be **required** to follow the policies, programs and guidelines set forth in this Plan and related documents.” Based upon the points made above, and the fact that staff did not even *once* raise the above concerns in *any* staff report, it is clear that the LMSAP *did not* guide staff’s official review of this development proposal as required by the LMSAP, nor does this development follow the guidelines set forth in the plan as required.

8. The Development is Inconsistent with Conditional Use Permit, therefore major CUP should be denied until harms are mitigated.

The June 1st staff report states that the development is consistent with Conditional Use Permit requirements, but the surrounding community clearly raised concerns regarding the following requirements reviewed in the staff report:

CUP Requirement: “That the location, size, design, and operating characteristics of the proposed development will be compatible with, and will not adversely affect, the livability or appropriate development of abutting properties and the surrounding neighborhood, with consideration to be given to harmony in scale, bulk, coverage and density, to the availability of civic facilities and utilities; to harmful effect, if any upon desirable neighborhood character; to the generation of traffic and the capacity of surrounding streets; and to any other relevant impact of the development.” [Section 17.134.050]

Response: The staff planner states in the June 1st staff report that the proposed development is appropriate for the site location, despite the fact that multiple neighbor concerns were raised as to the generation of traffic, the removal of public parking availability, the economic detriment to the Malonga Casquelourd Center for the Arts, and if the Malonga Center suffers, the transformation of the neighborhood character.

CUP Requirement. "That the proposal conforms in all significant aspects with the Oakland General Plan and with any other applicable plan or development control map which has been adopted by the City Council."

Response: Since the proposal does not conform to the LMSAP's targets, goals and guidelines to prevent displacement, meet affordable housing goals, or include publicly accessible open space on any project over half a block, we believe a Major CUP should be denied until harms are mitigated.

Additionally, the Residential Design Review Criteria states [Section 17.136.050(A)] that "The proposed design will protect, preserve, or enhance desirable neighborhood characteristics." With the designation of this area as the Black Arts Movement Business District, the current proposal without sufficient mitigation for Malonga's parking spaces serves to *not preserve* the Malonga Casquelourd Center for the Arts as a desirable neighborhood element. The City of Oakland's lack of planning to provide sufficient parking for the Malonga Center to succeed economically as a city-run institution may be discriminatory based on the majority composition of staff and residents as low-income people of color.

9. The City of Oakland may be in violation of the federal Fair Housing Act.

The Fair Housing Act (Title VIII of the Civil Rights Act of 1968) prohibits practices that "actually or predictably result in a disparate impact on a group of persons or creates, increases, reinforces, or perpetuates segregated housing patterns...." California's Fair Employment and Housing Act (FEHA) also makes it "unlawful ... to discriminate through *public or private* land use practices, decisions, and authorizations" that have "the effect, regardless of intent, of unlawfully discriminating on the basis of [a protected class]." And, as an entitlement jurisdiction that receives federal housing funds from the U.S. Department of Housing and Urban Development, the City of Oakland is also required to take actions that eliminate identified impediments by "[p]romot[ing] opportunities for inclusive patterns of housing occupancy" and "eliminating racial and ethnic segregation." To this end, Oakland's Analysis of Impediments to Fair Housing identifies the "severe shortage of decent housing available and affordable to low income persons" as a "significant impediment to fair housing choice" because "minorities are far more likely than non-minorities to be low income."

Finally, state law also forbids local governments in "the enactment or administration of ordinances" from taking any action to prohibit any residential development because "of the method of financing" or because "the development ... is intended for occupancy by

persons and families of very low, low, or moderate....” To the extent that the City discouraged affordable housing, prioritized or refused to consider affordable housing during its disposition process, it would be in violation of this requirement.

Furthermore, the Affirmatively Furthering Fair Housing Rule allows local municipalities to be legally held accountable for actively implementing planning, policies, and tangible outcomes that support fair housing access for low-income families, people of color, families with children, and other protected classes who are rent-burdened. The failure of the Planning Department and the Planning Commission to encourage and implement the LMSAP’s goals for inclusive and equitable housing may be in violation of this new rule affirming the equity goals of the Federal Fair Housing Law to be the burden of local municipalities to actively implement.

Conclusion and Request to Enter into a Memorandum of Understanding

This development as passed will have long-standing negative impact on the community. It’s incredibly short-sighted and irresponsible for the Planning Commission to not allow additional time as short as two weeks until the next meeting for mediation with the community to mitigate these negative impacts. The City’s tactics of consistently disregarding the public’s expressed serious concerns should not be accepted by our elected officials, the City Council and Mayor, and indeed should be officially reprimanded.

We believe that the City of Oakland should actively move to protect two critical cultural districts adjacent to this project, the Black Arts Movement Business District and Chinatown, due to numerous market-rate developments coming into this area. As Oakland taxpayers and voters, we believe that City staff and officials should move to protect the City’s own interests based on the Lake Merritt Station Area Plan (LMSAP) by helping to negotiate mitigation for the following needs and concerns:

- 1) The Oakland City Council recently designated 14th Street in Downtown to be the Black Arts Movement and Business District (BAMBD) to honor the legacy of black artists, galleries, museums and businesses who have made Oakland the culturally rich city that it is to help attract so many new people to move to the city. We need developers to partner with the community to implement this vision and honor this history, by providing space for this cultural district to thrive, visually, socially and economically. The retail space on 14th Street is quite visible, and should include and reflect the cultures, neighborhoods and residents in this area, preferencing serving local needs and supporting local businesses over major corporate retailers. The Community Coalition asked for at least 5,000 square feet of affordable retail space at \$1 or below per square foot with long-term leases, and for community involvement and input on other retail tenants, on 14th Street for the Black Arts Movement and Business District to have a visible presence to bring the BAMBD to life.
- 2) The Malonga Center for the Arts is a city institution that operates city programs and events that require sufficient parking to thrive as the heart of the Black Arts

Movement Business District (BAMBD). The City should implement the BAMBD and support the continued successful operation of the Malonga Casquelourd Center for the Arts by requiring the nearby developers to include access to public parking in their parking garages, as they are removing over 325 public parking spaces currently available to fill the Malonga's 350 seat theater. The development's reduction of required parking for its residents by 25% will push those residents into competition for public parking, creating significant hardship for families and residents who cannot travel on public transit or bike for their commutes. At this site, the Community Coalition asked for at least 25 spaces in the parking garage to be available for staff, residents and attendees of the Malonga Center, or a \$50,000 contribution to a parking mitigation fund.

- 3) The City has acknowledged the data-proven need for affordable housing in the Housing Equity Roadmap passed in 2015 by the City Council and the Lake Merritt Specific Plan. City staff and Commissioners should be encouraging all developers to use the Density Bonus Ordinance to include affordable housing, or to work with one of the many nonprofit affordable housing developers in the region to create inclusive and diverse win-win developments to meet goals for both affordable and market-rate new housing to ease displacement pressures. The Community Coalition has asked for 15-25% to be accessible to low-income families and for workforce housing, and for family units to be affordable enough to allow families to stay in Oakland and send their children to our public schools.
- 4) To mitigate the loss of the opportunity to create publicly accessible open space on this site as designated by the Lake Merritt Station Area Plan, we request special access for neighborhood community group events at a minimum of 6 times per year with consideration of access to the Community Room and Fitness Center as well, and the implementation of outdoor sidewalk seating honoring Chinatown on Alice Street and the BAMBD on 14th Street for the public to enjoy. In lieu of meaningful open space, the Community Coalition has requested a contribution to Madison Park or the Chinese Garden Park to improve nearby public open space that is highly used and under-resourced.
- 5) National best practice includes as a key anti-displacement strategy the community benefits of financial contributions to surrounding neighborhood programs that can create resilience in low-income communities to withstand an influx of high-income residents, rising commercial rents, and increased push-out of tenants by landlords in a gentrifying neighborhood. The Community Coalition requested support for the implementation of the new Black Arts Movement Business District, additional support for Malonga artists to be engaged in the development of the BAMBD, and contributions toward a Small Business Innovation and Worker Center for the neighborhood that can help small businesses succeed and stay in place while rents rise, and help low-income workers develop skills and access job and economic development opportunities to be able to remain and afford skyrocketing rents to not be forced to move out of their hometown.

- 6) New development in Oakland should benefit economic justice for local residents equitably, including ensuring that communities of color and low-income communities are beneficiaries of the new influx of projects. The Community Coalition requested a workforce agreement that includes a target of 50% local hire met by working with trade unions who can source qualified workers in the city and track goals, and hiring minority contractors, sub-contractors and staff, at living wages with apprenticeship pathways to meaningful and sustainable careers.

We believe these are reasonable requests as mitigation for the harm that would be caused by the proposed development, particularly given the approval of a Major CUP. We have made some headway with Wood Partners in mediation, but we believe there is a threshold for mitigating displacement impacts that major developments must meet, and we do not believe the current offerings are sufficient mitigation for this project's impacts. According to calculations from Cornerstone's Inclusionary Housing Calculator, even accounting for high construction and land costs, at \$15 million per acre, \$300 per square foot in construction, 5% cap rate, we see at minimum a \$24 million dollar profit and an ability to include 10% inclusionary housing. This development is projected to have gross profits of almost one million dollars *per month*, and we believe Wood Partners has been insincere about what they are able to contribute to this community to meet the city's goals, as a national developer with over \$8 billion in assets backed by the world's largest real estate investor, CBRE Global Investors with over \$90 billion in assets.

The disappearance of important and historic cultural neighborhoods is an unacceptable by-product of the Planning Department and Mayor Schaaf's current rush to develop housing, and we cannot stand by and allow developer-oriented planning to destroy the places we have built and belonged for over a century.

By fast-tracking this development while ignoring community concerns, and not allowing for sufficient mediation time, the Planning Commission is forcing the community to pay thousands of dollars for this appeal in order to allow time for mitigation. This is not good for the developer, or the neighborhood, or the thousands of people in Oakland who need immediate housing. Many of us are not against new development that provides housing and bring additional tax base for the city, but we are against development without mitigation for detrimental impacts. The Major Conditional Use Permit allowing for a large size development and reducing the percentage of parking allows the City leverage to ask for givebacks to mitigate those impacts, which is a common practice that the City has used previously, so it appears to be a breach of duty by City staff, whose salaries are funded by tax dollars, and Planning Commissioners, who are appointed by the Mayor to serve the public's interests, to not have asked the developer to mitigate these negative impacts and to forward the City's own established goals for inclusive, diverse and affordable housing.

We ask that every developer planning to develop in this area be required to thoroughly read the Area Plan and develop their proposals accordingly, and for every Specific Plan that engaged Oakland residents, and we ask you as city staff and representatives to advocate for the community needs identified in these plans, rather than continuing to fast-

track gentrification without representing our needs or sufficiently involving the impacted communities in the process.

We believe that as a progressive Oakland City Council and government, you will not want to sit on the sidelines as the survival of the historic Malonga Casquelourd Center for the Arts and the newly approved Black Arts Movement Business District is threatened, as this neighborhood's quality of life deteriorates, and we hope that you will act to advance the interests of your constituents by actively requesting that Wood Partners sign an MOU with the above requested givebacks. We also hope that you will investigate the errors and insufficient public process of the Planning Department and Commission for significant reform and transformation to implement truly progressive planning processes that replicate proven successful models in cities like Seattle, Twin Cities, and Philadelphia. A progressive city like Oakland deserves a progressive Planning Department and Commission to prevent displacement, to stop the destruction of our city's history, and to make our city government more inclusive and effective for its residents.

We urge you, as representatives elected by the residents to protect and uphold the needs of our quality of life, to not approve the proposed development until the community's needs raised here and in the public process are sufficiently mitigated. As a community, we pledge to continue organizing and using whatever tools, strategies and tactics are available to us to prevent the current proposed development from moving forward until they are mitigated. We have nothing to lose, except for our neighborhoods, our culture, our businesses, and our homes.

Thank You for Your Earnest Consideration,

The #SupportMalonga Coalition

Black Arts Movement Business District Stakeholders

Malonga Arts Collective

Oakland Chinatown Advocates

Hundreds of Neighborhood Residents

Oakland Rising Coalition

Oakland Block by Block Organizing Network

Asian Pacific Environmental Network

Community Rejuvenation Project

#KeepOaklandCreative Organizers

Oakland Residents for Responsible Development

People of Color Sustainable Housing Network

Oakland Law Collaborative

Exhibit A: 2nd Request to City Officials to Be Kept Abreast of Project Timeline & Raising Concerns

----- Forwarded message -----

From: **Lailan Sandra Huen**

Date: Thu, Apr 7, 2016 at 12:44 AM

Subject: Community Benefits @ 226 13th Street

To: Jahmese Myres, rraya@oaklandnet.com, "Guillen, Abel"

Hello All,

We're trying to get ahead of the process for the development at 226 13th Street also across from Malonga before it goes to the Planning Commission.

It went to one Design Review Committee meeting on January 13th, but does not look like it's been scheduled for another review, so we'd like to know the status of the project if any of you can help find out?

There are pretty much the same problems in this project as the one across the street, including no community benefits in exchange for the Major Conditional Use permit, the privatization of publicly accessible parking, and of course no affordable housing, and only 1 3-bedroom unit:

<http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak056624.pdf>

The Chinatown Coalition has also raised concerns about what appears to be a lack of open space open accessible to the public, which was a big issue in the creation of the Lake Merritt Specific Plan.

Wood Partners is a national developer, and we believe they should work with the BAMBD & Chinatown communities to help meet the current resident needs.

Abel & Richard, can you help set-up a meeting with the developer and community stakeholders to identify some meaningful benefits before this goes up for review again?

Please let us know, thank you!

Lailan Sandra Huen

Exhibit B: June 22nd Decision Hearing Date Not Noticed for Neighborhood Stakeholders

